A Socioeconomic Evaluation of the Recreational use of Fish and Wildlife Resources in Alberta with Particular Reference to the AOSERP Study Area
Volume II: Recreational Fishing

Project TF 6.1
June 1979

Sponsored jointly by

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

RESEARCH REPORTS

These research reports describe the results of investigations funded under the Alberta Oil Sands Environmental Research Program, which was established by agreement between the Governments of Alberta and Canada in February 1975 (amended September 1977). This 10-year program is designed to direct and co-ordinate research projects concerned with the environmental effects of development of the Athabasca Oil Sands in Alberta.

A list of research reports published to date is included at the end of this report.

Enquiries pertaining to the Canada-Alberta Agreement for other reports in the series should be directed to:

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A Socioeconomic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta, with Particular Reference to the AOSERP Study Area

Volume II: Recreational Fishing

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The Hon. John W. (Jack) Cookson
Minister of the Environment
222 Legislative Building
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and

The Hon. John Roberts
Minister of the Environment
Environment Canada
Ottawa, Ontario

Sirs:

Enclosed is the report "A Socioeconomic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta with Particular Reference to the AOSERP Study Area. Volume II: Recreational Fishing".

This report was prepared for the Alberta Oil Sands Environmental Research Program, through its Terrestrial Fauna Technical Research Committee (now the Land System), under the Canada-Alberta Agreement of February 1975 (amended September 1977).

Respectfully,

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A SOCIOECONOMIC EVALUATION OF THE RECREATIONAL USE OF FISH AND WILDLIFE RESOURCES IN ALBERTA, WITH PARTICULAR REFERENCE TO THE AOSERP STUDY AREA VOLUME II: RECREATIONAL FISHING

DESCRIPTIVE SUMMARY

BACKGROUND

Resource development at the scale projected for the Athabasca Oil Sands area will inevitably result in a dramatic increase in population. Concurrent with this increase in population will be a significant increase in the recreational use of the fish and wildlife resource of the once wilderness area. A prerequisite to effective management of the fish and wildlife resource is an understanding of the utilization of this resource.

This project has evaluated the recreational use of the fish and wildlife resource (1976 level) in the AOSERP study area by focussing on the socioeconomic rather than the biophysical aspects of utilization. The following objectives provided the operational direction for this project:

1. To ascertain the socioeconomic characteristics of participants in recreational fishing, hunting, and non-consumptive uses of fish and wildlife;
2. To establish a detailed profile of recreational fishing, hunting, and nonconsumptive fish and wildlife use activities, particularly with regard to activity locations, durations, expenses, and species of fish and wildlife involved;
3. To determine the number of recreational days expended in these activities by Albertans;
4. To examine the desirability of different species of fish and wildlife; and
5. To estimate the value of fish and wildlife resources used for recreational purposes.

The results of this project have been reported in four volumes:

Volume I: Summary and Conclusions (AOSERP Report 43)
Volume II: Recreational Fishing
Volume III: Recreational Hunting
Volume IV: Nonconsumptive Recreational Use of Fish and Wildlife

ASSESSMENT

Project TF 6.1 has been reviewed by scientists within the governments of Alberta and Canada. Volume I: Summary and Conclusions has been published and received wide distribution (AOSERP Report 43). Since data in Volume II: Recreational Fishing have been summarized and published in to Volume I, Volume II will receive limited distribution. Program Management of AOSERP accepts the report entitled; "A Socioeconomic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta, with Particular Reference to the AOSERP Study Area. Volume II, Recreational Fishing", and thanks the authors for their contribution to the program.

William RMcDonald

W.R. MacDonald
Director (1980-81)
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Research Program

A SOCIOECONOMIC EVALUATION OF THE RECREATIONAL USE OF FISH AND WILDLIFE RESOURCES IN ALBERTA WITH PARTICULAR REFERENCE TO THE AOSERP STUDY AREA

Volume II

RECREATIONAL FISHING

by

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The University of Alberta

for

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

Project TF 6.1

June 1979

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ABSTRACT

A socioeconomic evaluation of recreational fishing activity was conducted in the AOSERP study area during 1975-1976. The objective of this study was to ascertain the importance of the recreational fishing resource in the AOSERP study area by relating recreational fishing in the AOSERP study area to the province as a whole. This was accomplished through the utilization of two questionnaires; one sent to 1,967 randomly selected fishing license holders throughout Alberta and the second to 2,112 randomly selected fishing license holders in the AOSERP study area. These questionnaires determined the age, sex, family size, income, and education of the respondents.

Fishing experience and fishing activity costs and benefits were also determined.

Results indicated that AOSERP study area resident anglers spent less time per fishing trip, took more trips, travelled shorter distances, and had a higher success rate than anglers from the province as a whole.

Also presented is a species breakdown of the catch and species preferences of anglers.

ACKNOWLEDGEMENTS

This research project TF 6.1 was funded by the Alberta Oil Sands Environmental Research Program, a joint Alberta-Canada research program established to fund, direct, and co-ordinate environmental research in the Athabasca Oil Sands area of northeastern Alberta.

The results of this project represent the culmination of efforts on the part of many individuals. Appreciation is extended to those who permitted interviews and responded to mail questionnaires. Interviews were conducted by L. Brook, W. Dunn, and L. Westwood. The authors wish particularly to thank Linda Westwood for her work in compiling and coding interview results. Sorting and coding of mail questionnaire returnswere undertaken by D. DePape, V. Penny, P. Gunn-Graham, and E. McElhaney. Special thanks go to E. McElhaney who also edited, typed, and proofread all four volumes of the project report. Her efforts provided welcome relief to the authors.

The role of the Department of Rural Economy, University of Alberta, and its chairman, A. Petersen, is gratefully acknowledged. In particular, the authors acknowledge C. Shier for computer data processing, G. Johnston for key punching, R. Bence for graphics, and W. Williamson for bookkeeping.

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Finally, the authors wish to extend their gratitude to C. Ward, Alberta Fish and Wildlife Division, whose role as project co-ordinator and whose assistance at every stage of the project activity were invaluable. Her efforts were vital to the success of the project.

1. INTRODUCTION

The report is Volume II of a four volume set entitled "Socioeconomic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta with Particular Reference to the AOSERP Study Area". The four volumes carry the following subtitles: Volume I, Summary and Conclusions; Volume II, Recreational Fishing; Volume III, Recreational Hunting; and Volume IV, Nonconsumptive Recreational Use of Fish and Wildlife.

The project, which began in January 1976, was financed by the Alberta Oil Sands Environmental Research Program (AOSERP). Phase I of the project, the design phase, was carried out by the authors under a contract between the Alberta Oil Sands Environmental Research Program and I.M.P.A.C.T. Environomics Ltd. Phase II of the project, the implementation and analysis phase, was carried out by the authors under a contract between the Alberta Oil Sands Environmental Research Program and the University of Alberta. The work in Phase II was undertaken at the Department of Rural Economy, University of Alberta.

2. BACKGROUND, SCOPE, AND OBJECTIVES

A quantum jump in international oil prices, as well as the deterioration of Canada's balance of trade in oil, has generated a great deal of interest in the oil sands resources of northeastern Alberta in the past few years. There has been a series of proposals to establish oil sands extractions operations. A new oil recovery plant is currently under construction. New programs to design and examine alternative methods for extracting oil from the oil sands are underway. However, along with this activity, there has also been substantial concern about the social and environmental side effects of oil sands development.

Utilizing current technology, oil sands recovery involves gigantic surface mining operations and huge recovery plants. The inevitable results are significant land disturbances and substantial air and water pollution. These effects could alter current and potential resource uses of natural environments, such as outdoor recreation (including hunting and fishing) which are of value to all Canadians and particularly to Albertans. If proper decisions are to be made about the development of oil sands, it is necessary to ascertain the manner in which oil recovery activities will affect the use of other natural resources. Such information is essential input into public policy formulation and implementation if the best interests of Albertans and Canadians generally are to be served by the selection of resource use patterns in northeastern Alberta.

This report presents a socioeconomic evaluation of recreational fishing activity in the AOSERP study area (Figure 1) and compares the results to those of a similarily oriented evaluation covering the province as a whole. It is one of three reports by the authors which focus on the recreational use of fish and wildlife in the Athabasca Oil Sands area and throughout the province.[1] This report is also one of many studies being carried out under the

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[1] The other two reports deal with recreational hunting and recreational nonconsumptive fish and wildlife use in the AOSERP study area and throughout the province.

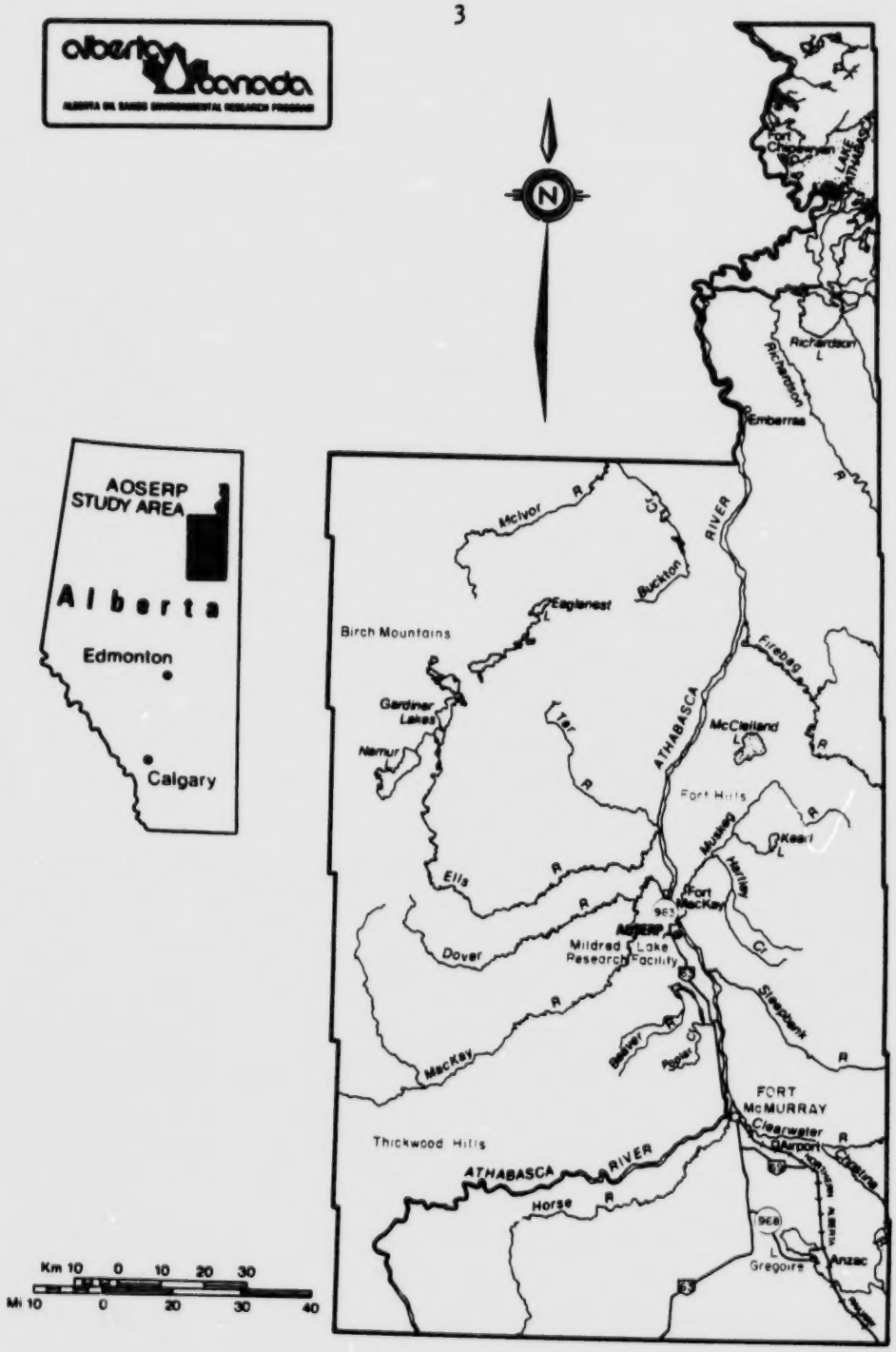

Figure 1. Map of the AOSERP study area.

auspices of the Alberta Oil Sands Environmental Research Program (AOSERP) to determine the effects of oil sands development on the environment.

The study reported herein was carried out with the following objectives in mind:

1. To ascertain the socioeconomic characteristics of participants in recreational fishing in the AOSERP study area and throughout the province;
2. To establish a detailed profile of recreational fishing activities in the AOSERP study area and throughout the province, particularly with regard to activity locations, durations, expenses, creel counts, and species of fish;
3. To determine the number of recreational fishing days expended by Albertans in the AOSERP study area and throughout the province;
4. To examine the desirability of different species of fish in the AOSERP study area; and
5. To estimate the value of fish resources used for recreational purposes in the AOSERP study area and throughout the province.

The realization of these objectives provides information essential to the assessment of recreational fishing activity. Furthermore, when the socioeconomic information is combined with physical and biological information, it is possible to ascertain the importance of recreational fish resource uses in relation to other fish resource uses and in relation to other resource use patterns that may alter fish habitat.

The results presented in this report provide important data for fish resource management. Fishing alters fish populations in varying degrees in different locations. In order to regulate the amounts, locations, and times of fishing activities, it is essential to know where fishing participants go and what they do.

Beyond fishing activities, this report provides an indication of fish resource values arising from recreational fishing activities. Fishing, like many outdoor recreational activities, is divisible in consumption, and thus the privilege of fishing can be sold at a market price.[1] However, in North America the fugitive nature of fish resources has historically led to public ownership of these resources and fishing license fees cannot be considered adequate measures of social benefits.[2]

Recreational fishing activities, like other resource uses for which extramarket benefits typically exist, tend to receive less attention and become displaced by commercial resource uses for which market prices provide comparatively complete and ready measures of use value. Oil production in the Athabasca Oil Sands, for example, may alter, through pollution or water regime disturbances, fish habitat and thus affect fish. The oil produced has value reflected in the market place. The displaced fish has value but that value, which is also displaced (lost), is not reflected in the market place. Public policy directed at resolving resource use conflicts must reflect both market and extramarket values in determining those resource use patterns that best serve society. For example, commercial resource uses, such as oil extraction, which displace values (largely extramarket) from uses tied to natural environments, such as fishing, incur social costs in the form of displaced or foregone benefits which must be charged against the commercial uses. Historically this approach has been largely neglected, resulting in resource use imbalances favouring commercial resource uses. This report, therefore, is not only important in providing fishery management input

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[1] Other recreational activities, such as viewing scenic areas, are often not divisible in consumption; that is, the enjoyment of an area by one person is not dependent on the enjoyment of the area by others.

[2] Social benefits include all benefits, market and extramarket, that accrue from fishing activity and may be largely, but not solely, incident upon fishing participants themselves.

but also in providing quantitative estimates of extramarket benfits associated with fishing activities. These estimated benefits should be taken explicitly into account, along with other important information, in formulating public decisions regarding natural resource utilization.

3. RESEARCH DESIGN AND PROCEDURES

3.1 QUESTIONNAIRE DESIGN

Two instruments designed to obtain the type of information required to achieve the objectives of this study were developed and utilized: (1) a mail questionnaire was designed to obtain information from a sample of provincial residents holding a fishing license during 1975-76; and (2) a mail questionnaire was designed to obtain information from a sample of residents of the AOSERP study area (Figure 1) holding a fishing license during the same period. The design of both questionnaires drew upon the earlier work of one of the authors of this report as well as upon questionnaires developed and used by others.[1] Initial drafts of the questionnaires used for this report were modified in consultation with members of the Aquatic and Terrestrial Fauna Technical Research Committees of AOSERP. A copy of each questionnaire is contained in Appendix 8.1.

Both questionnaires were designed to obtain biographic information about the recipients. This information included residence, age, sex, occupation, family size, family income, and education (Questions 1-7, both questionnaires, Appendix 8.1). These variables may have significant bearing on fishing activities. For example, income may limit the amount of time taken for fishing and the type of equipment used. Residence will have a bearing on required travel distance, which in turn influences the locations and durations of fishing activities. Similarly, the other variables may influence the behaviour and value of fishing activities of questionnaire respondents.

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[1] William E. Phillips directed province-wide fishing surveys undertaken by the Department of Rural Economy (formerly the Department of Agricultural Economics and Rural Sociology), University of Alberta, in co-operation with the Alberta Fish and Wildlife Division during 1968 and 1969, for which mail questionnaires were designed and utilized. Results of these surveys appear in several works including; Miller (1971a and 1971b); Moncrieff (1972); Pattison (1972); and Snipe (1970). Works elsewhere include: Capel and Pandey (1972); Romm (1969); Sewell and Rostron (1970); Wennergren (n.d.); Hanus (1974); and Ross (1975).

The balance of the questions in both questionnaires (the province-wide questionnaire and the AOSERP study area questionnaire) sought similar information in regard to times, locations, and durations of fishing trips, travel distances, species sought, fishing successes, ratings, fishing expenses, and extramarket values of fishing experiences. Both questionnaires included a map of the AOSERP study area upon which recipients were asked to pinpoint locations of fishing activites undertaken in the area. No maps were used for activity locations elsewhere in the province although recipients were asked to indicate nearest towns or landmarks. In addition to providing the above information, recipients were also asked to give any additional comments relating to their fishing experiences.

The information received from questionnaire respondents provided the basis for the following: (1) an assessment of fishing activities in the AOSERP study area and throughout the province; (2) a determination of the number of recreation days; (3) a profile of recreation activities relating to fish resource use; (4) an examination of the desirability of different species; and (5) a socioeconomic evaluation of fish resources. Each of these items directly reflects the objectives outlined at the beginning of this report.

3.2 SAMPLING DESIGN

Inferences, drawn from the sample questionnaire return results, can be made about the populations of fishing license holders in the province and within the AOSERP study area. The reliability of such inferences depends in part upon the manner in which the recipient samples are drawn. All selections for each sample must be random; that is, each license holder in the population must have the same probability of inclusion in the sample as every other license holder in the population.

Samples of 2,000 names were sought for both the province-wide and AOSERP study area surveys. The sample size of 2,000 for each survey are considered sufficiently large to ensure high numbers of returns for analysis. The names of all Alberta resident fishing license holders are on file with the Albert Fish and Wildlife Division. The names of the holders appear on fishing certificates which are arranged in a series according to certificate number. Initially, these certificates are sent in blocks to vendors in towns and cities throughout the province in order of alphabetical listing of these locations. For example, a vendor in Andrew will receive a block containing numbers from 100100 to 100151, followed by a vendor in Athabasca who receives a block containing numbers from 100152 to 100201, and so on. As residents purchase licenses, copies of the certificates containing their names and addresses are returned to the Division and placed on file in a series according to certificate numbers. Because any certificate licenses that are not sold by the vendors are not placed on file, breaks in the series exist.

There were approximately 197,000 license holders on file for 1975-76 in 38 consecutively arranged drawers. Because of breaks in the series of certificate numbers, simple random selection of holders using 2,000 randomly selected certificate numbers was not appropriate. Instead, a randomly cited systematic sampling procedure was used. This procedure consisted of randomly reordering the 38 drawers to neutralize any possible block or trend effects that may otherwise exist.

The sample for the province-wide survey consisted of selecting at random one certificate from the first 100 certificates in the randomly selected first drawer. Beginning with that selection every 100th certificate was selected by proceeding through the randomly ordered drawers (e.g., 69th, 169th, 269th,...,196,669th). A total of 1,967 certificates were drawn and the names and addresses recorded.

The sample for the AOSERP study area survey was drawn from certificates processed through vendors in that areas (five vendors in Fort McMurray and one vendor in Fort Chipewyan). The numbered series of certificates sent to each selected vendor were obtained from obtained from a master file in the Fish and Wildlife Division. These certificates were then taken from the aforementioned drawers and individually examined. If the individual resided in the survey area his or her name and address were recorded, otherwise they were not listed. Furthermore, names of survey area residents (about 30 in all) who were included in the province-wide sample were excluded to avoid inclusion in both surveys. From the total of 3,038 local selections, 2,112 names and addresses were chosen for the AOSERP study area fishing survey on a randomly cited systematic basis.[1]

In summary, two random samples were drawn, one for the province-wide fishing survey, mail questionnaires (1,967), and the other for the AOSERP study area fishing survey questionnaires (2,112).

3.3 MAIL-OUT PROCEDURES AND RETURN RESULTS

The names and addresses from both samples were entered on a duplicate set of address labels. Each label was given an identification number matching an identical number on each questionnaire. The purpose of this procedure was to identify those who returned questionnaires, remove their duplicate address labels, and thereby exclude them from a second mailing intended for those remaining who did not respond to the initial mailing. This procedure reduced printing, processing, and postage costs by avoiding an across-the-board second mailing and precluded the propensity of second returns

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[1]Residents of the survey area may have purchased a fishing license outside the area and were not included in the population. However, their numbers are very small and do not alter the representativeness of the sample.

from first mailing respondents. The questionnaires were mailed during June of 1976 with covering letters (Appendix 8.1) and return envelopes.[1] The second mailing followed the first mailing by approximately three weeks. The returns from both mailings for both surveys were collected by AOSERP and turned over to the authors for processing.

The province-wide survey involving 1,967 questionnaires in the first mailing resulted in a return of 356 questionnaires of which 30 were returned unopened (Table 1). The second mailing of 1,639 questionnaires resulted in additional returns of 357 of which 101 were returned unopened. In total 131 questionnaires were returned unopened, thus reducing the effective sample size from 1,967 to 1,836. The total of 582 responses represents an effective sample response of 31.7 percent (Table 1).[2]

The AOSERP study area survey involving 2,112 questionnaires in the first mailing resulted in a return of 303 returns of which 66 were returned unopened (Table 1). The second mailing of 1,857 questionnaires resulted in additional returns of 397 of which 179 were returned unopened. In total, 245 questionnaires were returned unopened, thus reducing the effective sample size from 2,112 to

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[1] Ideally the questionnaires should have been sent during March and April at the close of the 1975-76 season. Because of delays beyond the authors' control, the questionnaires could not be mailed until June.

[2] The returns were in fact higher. However, approximately 275 returns were inadvertantly destroyed and consequently were never turned over to the authors for processing. Since these returns included responses from both fishing surveys as well as two hunting surveys and one non-consumptive fish and wildlife use survey (all being carried out in connection with the recreational use of fish and wildlife project), the extent of reduction in each survey could not be determined. Thus, the results presented here stand.

Table 1. Sample responses to fishing surveys, 1976.

	Province-Wide Survey			AOSERP Study Area Survey		
	First Mailing	Second Mailing	Cumulative Results	First Mailing	Second Mailing	Cumulative Results
Population	197,000	197,000	197,000	3,038	3,038	3,038
Number Sampled	1,967	1,639	1,967	2,112	1,857	2,112
Percent Sampled	1.0%	0.8%	1.0%	69.5%	61.1%	69.5%
Questionnaires Returned Unopened	30	101	131	66	179	245
Effective Sample Size	1,937	1,538	1,836	2,046	1,678	1,867
Effective Percent Sampled	1.0%	0.8%	0.9%	67.3%	55.2%	61.4%
Questionnaires Returned	326	256	582	237	218	455
Percent of Effective Sample Responses	16.8%	16.6%	31.7%	11.6%	13.0%	24.4%

1,867.[1] A total of 455 responses were made resulting in an effective sample response of 24.4 percent (Table 1).

The survey procedures used do not allow for an accurate check on nonresponse bias; that is, there is no precise way of determining whether or not respondents are as representative of the population as nonrespondents. For example, it is not clear that respondents tended to have greater fishing success than non-respondents. If this is indeed the case then any inference to the population would result in an upward bias in fishing success. Ideally, a small subsample taken from the mail sample for personal interview, from which a 100 percent response would be forthcoming, could be used to test for nonresponse bias. This procedure is extremely time consuming and costly and for these reasons were not undertaken. Some identification of nonresponse bias, however, can be derived from a comparison of results between first and second mailings. Respondents to the second mailing represent a portion of nonrespondents to the first mailing. If a nonresponse bias exists, some indication of this should appear in the comparison of mailings. Although less than ideal, this procedure is feasible and provides some insights into the possible problem of nonresponse bias.

3.4 THE PROCESSING OF RESPONSES

The returns from the two fishing surveys were collected and sorted for coding. Codes were developed for all possible answers to each of the questions presented in the questionnaires. These codes were used to code the answers contained in each questionnaire. The coded responses were checked and submitted for key punching on data processing cards. The punched cards were verified and the coded data read into the University of Alberta's central computing system for analysis.

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[1] This substantially greater reduction in effective sample size compared to the province-wide survey is in large measure due to the higher proportion of transient persons in the AOSERP study area compared to the province as a whole.

4. PROVINCIAL FISHING SURVEY RESULTS

Among the 582 province-wide survey questionnaires returned (Table 1), 551 were usable. Detailed results of the survey returns are contained in Appendix 8.2 and summarized and discussed in this section of the report. A comparison between first and second mailings for selected variables was made to see if there was evidence of non-response bias. There was no significant difference between the results of the two mailings, supporting the assumption that non-response bias did not exist (Appendix 8.2, Table 38). Consequently the results of both mailings are combined and inferences from the sample of the 551 respondents about the population of approximately 197,000 resident provincial fishing license holders during the 1975-76 season are made directly. That is, the 551 sample respondents are taken as representative of the population without the use of any adjustment or weighting procedures.

4.1 SOCIOECONOMIC CHARACTERISTICS

Approximately 61 percent of the 1975-76 fishing license holders reside in the 10 most populated communities in the province. Edmonton and Calgary account for 48 percent and the communities of Camrose, Fort McMurray, Grande Prairie, Lethbridge, Medicine Hat, Red Deer, St. Albert, and Sherwood Park account for 13 percent. The residences of the remaining license holders are dispersed throughout the province (Appendix 8.2, Table 9).

The age of license holders ranged from 16 years to 68 years with an average age of 36.27 years. The median age is 34.65 years and the modal age is 22.00 years. The age distribution has a sample standard deviation of 12.99 years (Appendix 8.2, Table 10).

The male-female breakdown of provincial fishing survey respondents indicates that 84 percent of the license holders were male and 16 percent female (Appendix 8.2, Table 11).

Among 17 occupation categories, tradesmen accounted for 17.5 percent followed by professional and technical occupations, 16 percent, and managerial occupations, 10.2 percent. The distribution of license holders in other categories were less than 10 percent each (Appendix 8.2, Table 12).

Family size ranged from one to nine persons in a household, the average size being 3.36 persons. The mode and median were both four persons and the sample standard deviation was 1.53 persons (Appendix 8.2, Table 13).

One half of the provincial license holders had annual family incomes between $10,000 and $20,000. The average income per family was $17,471. With an average family size of 3.36 persons, the per capita income is an estimated $5,200. Approximately 20 percent of the license holders had annual family incomes of $10,000 or less and 30 percent of the license holders had family incomes of more than $20,000 (Appendix 8.2, Table 14).

The distribution of formal education of provincial fishing survey respondents indicates that 23.7 percent attained high school matriculation, 18.7 percent had at least one year of university, and 20.9 percent completed at least one year of formal technical training, bringing the total to 63.3 percent. Among the provincial license holders, 97.7 percent had at least seven years of formal education (Appendix 8.2, Table 15).

In summary, a typical 1975-76 fishing license holder in Alberta is 36 years of age, has achieved 12 years of formal education, is a member of a family of three or four persons, receives a family income of $17,471 per year, and tends to be an urban male.

4.2 FISHING EXPERIENCE

Among the 197,000 resident Alberta fishing license holders in the 1975-76 season, 92.5 percent, or 182,200 persons (by inference), had fished for sport prior to that time. The remaining 7.5 percent had no such previous experience (Appendix 8.2, Table 16). The number of resident license holders who fished in Alberta prior to the 1975-76

season amounted to 90.1 percent, or 177,500 persons, while the remaining 9.9 percent had no such previous experience (Appendix 8.2, Table 17). At the close of the 1975-76 season, 9.4 percent (18,500 persons) of the license holders had fished in the AOSERP study area at least once prior to that time. The remaining 90.6 percent of the license holders had never fished in the area (Appendix 8.2, Table 18).

During the 1975-76 fishing season, 83.3 percent of the license holders fished at least once; that is, among the 197,000 fishing license holders residing in Alberta, 164,100 fished at least once during the 1975-76 season. The remaining 32,900 (16.7 percent) license holders did not fish during the season although they had purchased a license (Appendix 8.2, Table 19).[1]

The balance of this section of the report focuses on the 83.3 percent of resident provincial fishing license holders who actually fished during the 1975-76 season. The sample size is 459 survey respondents and the estimated population of active license holders is 164,100 persons (Appendix 8.2, Table 19). The reason for this focus is the fact that the subsequent information relates to fishing activities. Those respondents who did not fish during the 1975-76 season were asked only to provide information pertaining to socioeconomic characteristics and fishing experience discussed to this point and return the questionnaire (Appendix 8.1, provincial survey questionnaire, item 9).

Among the license holders who actually fished, two thirds rated their fishing experiences fair or better with 6.2 percent rating their experiences as very good, 25.0 percent as good, and

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[1] This result suggests that the option to fish for these 32,900 persons was worth at least $4.00 per person (license fee) even though they did not exercise that option. The extramarket portion of this option value has not been estimated nor has the extramarket fishing option value of non-license holders been estimated. Consequently, the $131,600.00 is a market portion of the total option value to fish and may only be a small portion of the total option value (market plus extramarket benefits).

35.8 percent as fair. The remaining respondents rated their experiences as poor (22.8 percent) or very poor (10.2 percent) (Appendix 8.2, Table 20).

4.3 FISHING ACTIVITY COSTS

License holders who were actively engaged in fishing activities during the 1975-76 season spent an average of $796.75 for the season (Table 2). However, one half of these individuals spent an average of $170.00 or less. Of the total costs, variable costs amounted to an average of $269.01 per person. These costs included the following: travel costs (gasoline, oil, air fare, etc.) of $98.25 per person; lodging costs (hotels, motels, camping fees, etc.) of $18.88 per person; food costs (restaurant meals and food purchased for fishing trips) of $69.78 per person; beverage costs of $24.82 per person; rental costs (rental of boats, motors, and other equipment) of $5.10 per person; fishing service costs (guide fees, packer fees, and other similar fees, but not license fees) of $0.98 per person; fishing gear costs (hooks, bait, flies, etc.) of $40.61 per person; and other costs of $10.59 per person (Table 2 and Appendix 8.2, Tables 21 through 28). In addition, each person incurred a resident fishing license fee cost of $4.00.

Each year a portion of Alberta resident anglers incur costs for the purchase of items used, at least in part, for fishing purposes over two or more fishing seasons. During the 1975-76 season, 36 percent of the anglers made such purchases, which ranged from life jackets and tackle to boats, motors, vehicles, and motor homes (Appendix 8.2, Tables 29 and 30). Many of these items are used exclusively for fishing purposes. Other items are not used exclusively for fishing, in which case only portions of the purchase price of these items are allocated to fishing costs on the basis of the percentages of time these items are used for fishing purposes. For example, a vehicle purchased for $5,000 and used 40 percent of the time for fishing purposes represents a fishing capital cost of $2,000.

Table 2. Fishing costs per person for provincial fishing survey respondents, 1975-76 season.[a]

Item	Average Amount per Person per Season	Modal Amount per Person per Season	Median Amount per Person per Season	Standard Deviation	Range
Travel Costs	$ 98.25	$50.00	$ 50.00	$ 135.67	$0 - $ 995.00
Lodging Costs	18.88	0.00	0.00	55.42	0 - 600.00
Food Costs	69.78	0.00	40.00	96.23	0 - 800.00
Beverage Costs	24.82	0.00	10.00	53.05	0 - 500.00
Rental Costs	5.10	0.00	0.00	23.55	0 - 300.00
Fishing Service Costs	0.98	0.00	0.00	8.20	0 - 150.00
Fishing Gear Costs	40.61	0.00	20.00	69.71	0 - 900.00
TOTAL VARIABLE COSTS	269.01[b]	50.00	166.00	327.91	0 - 2,800.00
LICENSE FEE[c]	4.00	4.00	4.00	0.00	4.00
CAPITAL FISHING COSTS[d]	523.74	0.00	0.00	1,925.04	0 -28,493.00
TOTAL FISHING COSTS	796.75	54.00	170.00		

[a]Source: Appendix 8.2, Tables 21 through 30.

[b]Exceeds the total of the above by $10.59 which is the average amount spent per person for miscellaneous items.

[c]Excludes special licenses.

[d]Includes only that portion of 1975-76 season capital purchases that are used solely for fishing purposes; e.g., for a vehicle purchased for $5,000 and used 40 percent of the time for fishing purposes, the capital cost would be $2,000. Since most respondents made no capital purchase during the 1975-76 season, the average per person is much lower than if these same respondents were excluded from the calculations.

Normally such a cost to an individual would be spread over the number of fishing seasons in which the item was used. For example, if the vehicle mentioned above is used for ten seasons, then the capital cost per season would be $200.00. However, an alternative procedure in this study is used to arrive at capital fishing costs.

Capital fishing costs for the 1975-76 fishing season amounted to $523.74 per person (Table 2 and Apprendix 8.2, Table 29). This figure is derived by summing all 1975-76 capital purchase costs adjusted for percent of time used for fishing and dividing by the total number of active fishing respondents.[1] This result means that each season an individual will, on average, spend $523.74 on new purchases to replace or augment capital items purchased in previous seasons or to purchase capital items for the first time. Those individuals active during the 1975-76 season who made no such purchases (64 percent) have done so in previous seasons. Hence, the capital fishing cost figure presented here would be approximately the same as a figure based on annual depreciation amounts of individuals' capital fishing items.

The average number of days fished per person during the 1975-76 season was 10.05 (Appendix 8.2, Table 33). Hence, the total variable costs per person per day amount to $26.77 and license fees and capital costs per person per day amount to $52.51. Total fishing costs per person per day during the 1975-76 season were, on average, $79.28. However, one half of all persons actively engaged in fishing during that season incurred costs of $16.92 per person per day or less.

On the basis of an estimated 164,100 active resident fishing license holders during the 1975-76 season, total variable fishing costs (expenditures) amount to $44,144,541.00 for that season. License fees and capital costs (expenditures) amount to

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[1] $238,302.00 divided by 455 equals $523.74 (see Appendix 8.2, Table 29).

an additional $86,602,134.00, thus bringing the total expenditures by resident fishing license holders in Alberta during the 1975-76 season to $130,746,675.00.

4.4 FISHING ACTIVITY BENEFITS

The value of fishing activity over and above fishing costs constitutes extramarket benefits. License holders who were actively engaged in fishing activities during the 1975-76 season received, on average, $13.99 per day or $140.60 per season in such benefits (Table 3 and Appendix 8.2, Table 31). Based on the estimated 164,100 active resident fishing license holders during the 1975-76 fishing season, the benefits from fishing, over and above total expenditures, amount to $23,072.460.

The value of the fishing resource to active resident anglers consists of a market component which is the license fee and an extramarket component which is the extramarket benefit. On this basis, the value of Alberta's fishing resources to active resident fishing license holders is $144.60 per person.[1] Province-wide this amounts to an annual value of $23,728,860.00. This annual value does not include the recreational or option value of the fish resource to those residents who do not fish nor the recreational or option value to other Canadians and non-Canadians.[2] Furthermore, it does not include the value of the fish resource from commercial and other nonrecreational uses.

The extramarket benefits coupled with the license fees represent an annual willingness to pay for fish resources for the purpose of recreational fishing. Questionnaire recipients in the

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[1] The value of all expenditure items is assumed to equal its cost. If, in fact, the value differs from the cost then respondents are assumed to have adjusted their extramarket benefits accordingly.

[2] Minimum option value is estimated at $31,600. See footnote 1, page 16.

Table 3. Benefits per person from fishing activity for provincial fishing survey respondents, 1975-76 season.[a]

Item	Average Amount per Person per Season	Modal Amount per Person per Season	Median Amount per Person per Season	Standard Deviation	Range
Extramarket Benefits	$140.60[b]	$100.00[c]	$100.00[c]	$130.08[d]	$0.00 - $995.00
Total Value Attributable to Fish Resource[e]	144.60	104.00	104.00	130.08	4.00 - 999.00

[a]Source: Appendix 8.2, Tables 31 and 33.

[b]Average extramarket benefits per day per person of $13.99 times average number of days fished per season per person of 10.05 days.

[c]Mode and median extramarket benefits per day per person of $10.00 times average number of days fished per season per person of 10.05 days.

[d]Standard deviation of extramarket benfits per day per person of $12.00 times the standard deviation of number of days fished per season per person of 10.84 days with covariance assumed to be zero.

[e]Consists of extramarket benefits plus license fees.

survey were asked, in addition to willingness to pay, to indicate how much they would have to be paid not to fish for one year; that is, to provide an indication of compensation benefits. The average amount per person per year is $394.42 (Appendix 8.2, Table 32).[1] The annual total for the province is $64,724,322.00. Willingness to pay benefits are about 37 percent of the compensation benefits. This result is quite realistic since willingness to pay is limited in part by income, whereas compensation benefits are not. In terms of resource evaluation, willingness to pay is usually the appropriate measure of benefits.

4.5 FISHING ACTIVITY

Resident fishing license holders actively engaged in fishing throughout the province during the 1975-76 season spent, on average, 10.05 days fishing (Appendix 8.2, Table 33). This involved an average of 8.89 trips with a duration of 1.13 days per trip.[2] On the basis of the estimated 164,100 resident anglers during the 1975-76 season, total resident recreation days of fishing amount to 1,649,205 days and total number of fishing trips total 1,458,849. The average party size per trip was 2.95 persons.

Each active resident fishing license holder travelled an average of 2,095.88 km (1,301.54 miles) or 235.75 km (146.40 miles) per trip (Appendix 8.2, Table 33). The average distance from residence to fishing site was 117.9 km (73.2 miles). In terms of total distance travelled for all active license holders during the 1975-76 season, the combined distance was 343 933 518 km (213,582,714 miles).

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[1] The mode is $0.00, the median is $100.00, and the standard deviation is $824.00.

[2] Mode, median, standard deviation, and range for all three averages, as well as party size, distance travelled, and fish caught, are given in Appendix 8.2, Table 33.

The total number of fish caught per person averaged 35.28 fish or 3.51 fish per day or 3.97 fish per trip (Appendix 8.2, Table 33). The combined total, based on the inferred 164,100 residents who fished during the 1975-76 season, amounts to 5,789,448 fish. Of this total number of fish caught, Great Northern Pike accounted for 31.45 percent; Trout, 30.88 percent; Yellow Perch, 15.62 percent; Yellow Walleye, 9.70 percent; Whitefish, 7.81 percent; Arctic Grayling, 3.26 percent; and Dolly Varden, Goldeye, and Sauger combined, 1.28 percent (Appendix 8.2, Table 35). The total number of trips taken for each species represents the number of times that species has been sought during the 1975-76 season. Great Northern Pike and Trout are by far the most sought after species (33.12 percent and 32.85 percent of the time, respectively). Other species, in decending order of preference, are as follows: Yellow Walleye, 13.43 percent; Yellow Perch, 11.14 percent; Whitefish, 5.38 percent; Arctic Grayling, 2.68 percent; Goldeye, 1.22 percent; Sauger, Dolly Varden, and Chub, combined, 0.18 percent.

The geographical distribution of fishing activities is given by subbasin for 458 survey respondents in Appendix 8.2, Tables 34 and 36. The number of respondents represent 0.2791 percent of the estimated 164,100 resident anglers active in 1975-76. The sample raising factor to convert "number of respondents" in Table 34 and "total number of trips taken", and "total number of fish caught" in Table 36 to population estimates is 358.3. The location of each subbasin is given in Figure 2. An example, using subbasin 721, located in Figure 2, illustrates the procedure. Table 34 indicates four respondents fished in subbasin 721. The estimated total number of anglers in the subbasin during the 1975-76 season is 4 x 358.3 or 1,433 persons. Each of the 1,433 persons fished an average of 3.0 days on 1.8 trips for an average of 1.7 days per trip. The average party size was 2.8 persons. Each of the 1,433 persons travelled a total of 653.8 km (406.0 miles) or 363.3 km (225.6 miles) per trip in connection with subbasin 721 fishing activity and caught an average of 8.0 fish. Table 36

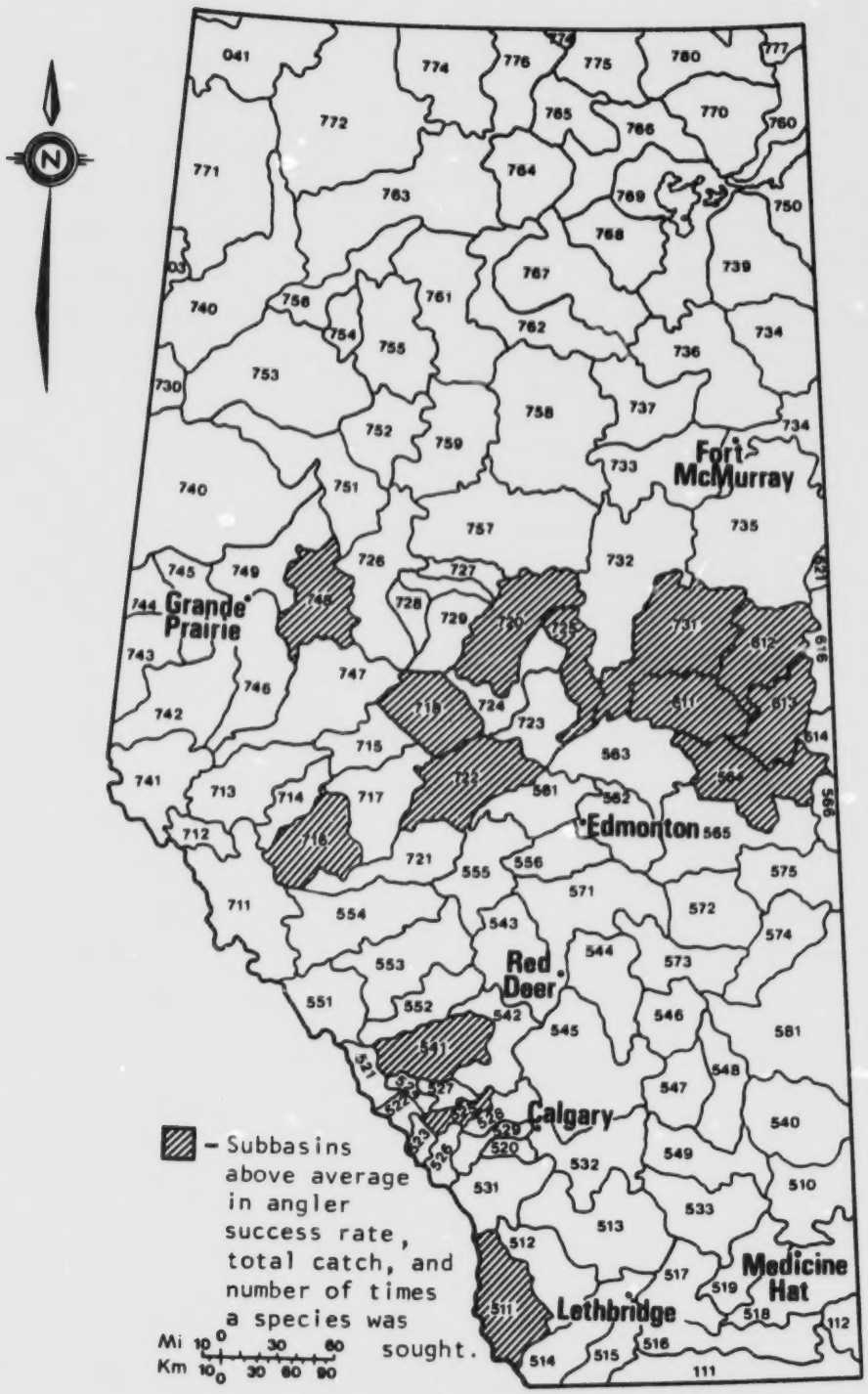

Figure 2. Map of Alberta subbasins.

further indicates that Pike was sought on two trips and 11 were caught, and Trout was sought on five trips and 21 were caught.[1] The estimated totals for subbasin 721 during the 1975-76 season are as follows: Pike was sought on 2 x 358.3 or 717 trips with a total of 11 x 358.8 or 3,941 caught and Trout was sought on 5 x 358.3 or 1,791 trips with 21 x 358.3 caught. The larger the number of survey respondents for a subbasin, the more reliable the estimates of population totals. Consequently, greater caution should be used in interpreting estimates for subbasins in which the number of respondents are few or, in some instances, as low as one (Appendix 8.2, Table 34). Those subbasins indicated in Figure 2 but not represented in Tables 34 and 36 of Appendix 8.2 were not fished by any of the 458 sample respondents. This is not to suggest that fishing activity is void in these subbasins but rather, the total number of anglers involved in each one during the 1975-76 season is low in relation to those subbasins that are represented (probably less than 300 to 400 persons).

Each angler, during the 1975-76 season, caught an average of 35.28 fish in an average of 2.3 subbasins. The average catch per person (angler success rate) per subbasin is 15.34 fish. The angler success rates among the 93 subbasins represented range from 0.0 to 46.6 fish per person (Appendix 8.2, Table 34). The following 30 subbasins (Figure 2) were above average in angler success rates: 511, 520, 522, 525, 541, 544, 545, 547, 554, 563, 564, 566, 581, 611, 612, 613, 713, 714, 716, 718, 720, 722, 725, 731, 736, 739, 741, 745, 748, and 766. On average, 15,687 trips were made to a subbasin in which the total catch averaged 62,252 fish during the 1975-76 season. The number of trips ranged from 358 to 70,872 and the total catch ranged from 0 to 398,430. The following 31 subbasins were above

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[1] Although not the case in this example, individuals who sought two species per trip led to double counting of trips in order to indicate the number of times a particular species was sought (Table 36). Consequently, for many subbasins the number of times a species is sought per person (Table 36) will be larger than the number of trips per person (Table 34).

average in total catch: 511, 525, 531, 533, 541, 543, 544, 545, 553, 554, 555, 561, 563, 564, 571, 581, 611, 612, 613, 616, 714, 716, 718, 720, 722, 725, 731, 735, 741, 745, and 748 (Appendix 8.2, Table 36). The following 33 subbasins were above average in the number of times a species was sought: 511, 518, 525, 528, 529, 531, 532, 533, 541, 542, 543, 544, 545, 553, 555, 561, 564, 571, 573, 611, 612, 613, 616, 716, 717, 718, 720, 722, 723, 725, 731, 735, and 748 (Appendix 8.2, Table 36). Subbasins 564 and 611 were well above average in total catch, accounting for 13.5 percent of the total catch and 10.7 percent of total trips taken. Those subbasins which were above average in angler success rates, total catch, and number of times a species was sought are as follows: 511, 525, 541, 564, 611, 612, 613, 716, 718, 720, 722, 725, 731, and 748. These 14 subbasins represent 15.1 percent of the 93 subbasins represented.

In summary, there were an estimated 164,100 active resident anglers during the 1975-76 season who spent an average of 10.05 days fishing for a total of 1,649,205 days. The number of trips averaged 8.89 for a total of 1,458,849 trips. Each angler on average travelled 2,095.88 km (1,301.54 miles) for a total of 343 933 517 km (213,582,714 miles) for all anglers. Each angler visited, on average, 2.3 subbasins and caught an average of 35.28 fish during the season. The total number of fish caught by all anglers totalled an estimated 5,789,448 fish, of which 62.3 percent were Great Northern Pike and Trout. In terms of numbers of times sought, Pike and Trout were strongly preferred (67 percent).

4.6 COMMENTS

Each questionnaire recipient was given an opportunity to make comments that would help in an evaluation of provincial fishing activity. Among the 459 respondents who fished in Alberta during the 1975-76 season, 217 gave no comment, 152 provided one comment, and 90 provided two comments. There was a total of 332 comments (Appendix 8.2, Table 37). Among this total number of comments, 130 focused on improvements which could enhance the quality of fishing

experiences. Those particular improvements mentioned most frequently recommended more fish stocking, better enforcement, reduced commercial fishing, and better facilities and campgrounds. The other reasons given relating to improvement are summarized in Table 37.

In terms of benefits from fishing experiences, 34 comments indicated fishing is priceless or that there are fishing value considerations beyond dollars. Another 20 comments indicated that fishing is a good recreational activity, and 17 additional comments indicated that fishing is a great sport. Among all comments, 11 indicated fishing to be excellent or good while 11 comments indicated fishing to be poor. Only 8 comments indicated fishing to be secondary to other activities, such as camping and family outings. Various other comments made up the balance of the total number and are summarized in Appendix 8.2, Table 37.

4.7 AOSERP STUDY AREA FISHING ACTIVITY

Among the 459 resident provincial survey respondents who actually fished in the province during the 1975-76 season, 23 fished at least once in the AOSERP study area (Appendix 8.2, Table 39). The estimated total number of Alberta resident anglers active in the AOSERP study area during the season is 8,240[1] (Figure 1). Of this total, 2,503 actually resided in the study area.[2]

Those provincial respondents active in the AOSERP study area were asked to rate their fishing experience in the study area in relation to their province-wide fishing experience. Among the

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[1] Estimated by applying the sample raising factor of 358.3 to the 23 respondents; i.e., 358.3 x 23 = 8,240.

[2] The results of the AOSERP study area fishing survey are discussed in detail in the next section of this report. The figure 2,503 is the 82.4 percent proportion of license holders residing in the study area (Table 1) who actually fished in the area (Appendix 8.3, Table 58) during the 1975-76 season.

ratings provided, 71.4 percent rated study area fishing as good as (52.4 percent) or better than (19.0 percent) provincial fishing as a whole (Appendix 8.2, Table 40). The remaining respondents, 28.6 percent, rated study area fishing worse than provincial fishing as a whole. Consistent with these results is the fact that extra-market benefits per day average $23.05 (Appendix 8.2, Table 42), which is substantially higher than the average for the province as a whole of $13.99 per person per day for fishing during the 1975-76 season (Appendix 8.2, Table 31).

Since the average number of days fished in the AOSERP study area during the 1975-76 season by Alberta anglers is 6.6 days (Appendix 8.2, Table 43) and the extramarket benefits average $23.05 per day fished, then the average extramarket benefit per person per season is $152.13. Based on the estimated 8,240 provincial anglers active in the study area, the total extramarket fishing benefits over and above fishing expenses in the AOSERP study area are $1,253,551.00. This amount represents 5.43 percent of the total extramarket benefits for the province as a whole.

Fishing activities by provincial anglers active in the study area involved an average of 6.6 days per person[1], 4.7 trips per person[2] with an average fishing party size of 3.2 persons[3] (Appendix 8.2, Table 43). Based on the estimated 8,240 provincial anglers active in the AOSERP study area, the total number of fishing days in the study area is 54,384 days or 3.30 percent of the provincial

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[1]The average total days fished is 10.6, of which 62.1 percent were actually spent fishing in the AOSERP study area. The average of 10.06 days is only slightly higher than the provincial average of 10.1 days.

[2]The average number of days per trip is 1.4 for the AOSERP study area, whereas the provincial average is 1.1 days per trip.

[3]The provincial average party size is 3.0 persons per trip.

total, while the total numbers of trips is 38,728 or 2.65 percent of the provincial total. The average distance travelled is 1,423 km (884 miles) per person per season or 301 km (187 miles) per trip per person (Appendix 8.2, Table 44). The total distance travelled by provincial anglers for AOSERP study area angling during the 1975-76 season was 11 729 726 km (7,284,160 miles) or 3.41 percent of the provincial total. The total number of fish caught in the study area by provincial anglers was 20.0 per person (Appendix 8.2, Table 44) or a total of 164,442 fish during the 1975-76 season. This total number of fish caught represents 2.84 percent of the provincial total.

The geographical distribution of fishing activity in terms of species sought and caught by subbasin (Figure 2) and by AOSERP study area grid number (Figure 3) is given in Appendix 8.2, Table 35. The sample raising factor of the figures contained under "No. of Trips" (which is the number of times a particular species has been sought) and "No. Caught", once again is 358.3. The proportion of the number of times each species has been sought is as follows: Great Northern Pike, 56.2 percent; Yellow Walley, 28.4 percent; Arctic Grayling, 8.8 percent; Yellow Perch, 2.9 percent; Goldeye, 2.2 percent; and Trout, 1.5 percent. The proportions of different species caught differ although Great Northern Pike is clearly ranked first in both number of times sought and number caught. The proportions of different species caught are as follows: Great Northern Pike, 47.2 percent; Arctic Grayling, 22.1 percent; Yellow Walleye, 13.1 percent; Trout, 10.3 percent; Yellow Perch, 4.5 percent; and Goldeye, 2.8 percent.

Comments on AOSERP study area fishing by provincial survey respondents were solicited. Twenty-nine respondents provided comments, some of which came from anglers who did not fish in the study area. These comments are summarized in Appendix 8.2, Table 46. Of particular note is the fact that 12.8 percent of the comments indicated a need for more access roads to lakes and rivers.

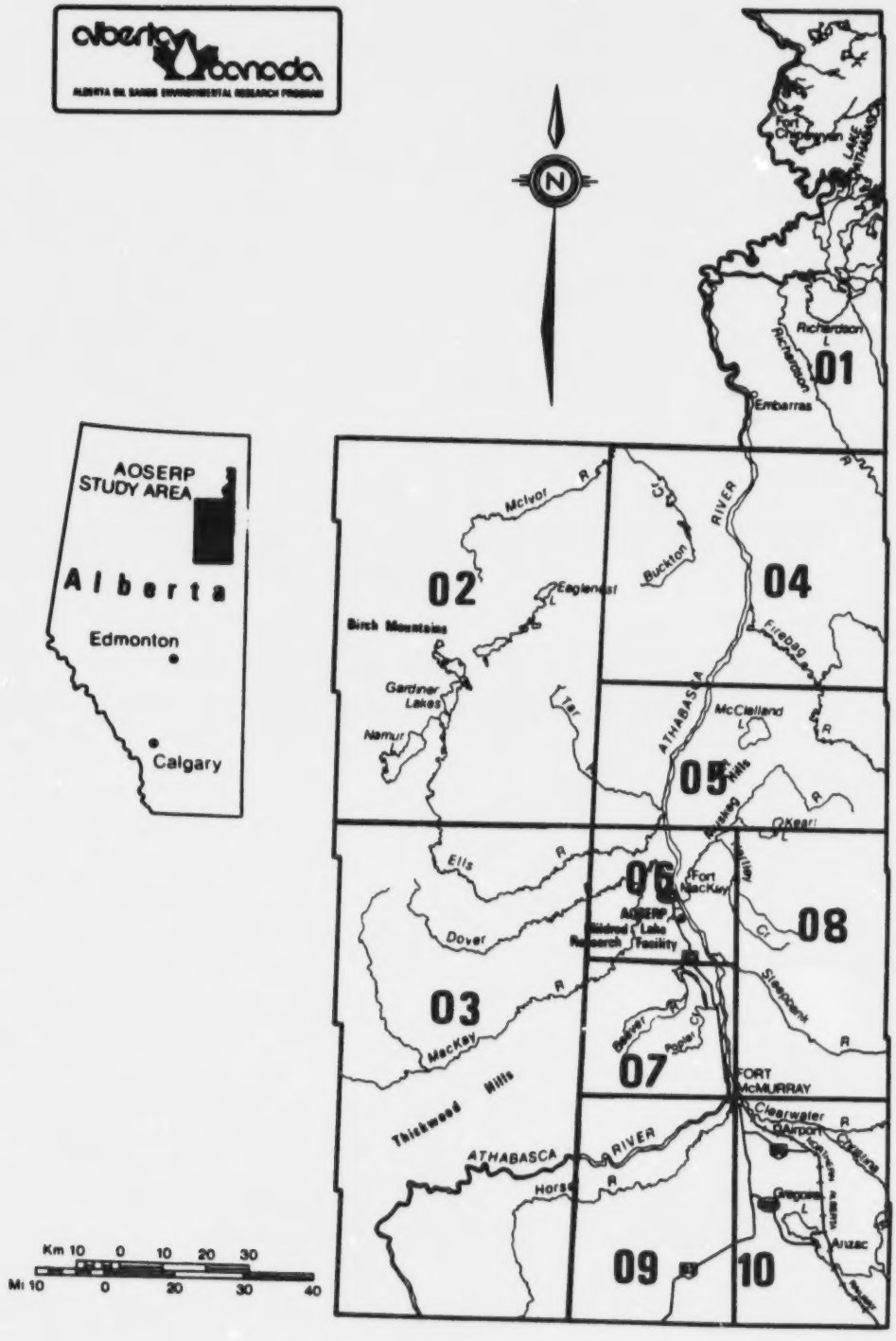

Figure 3. Map of AOSERP study area grids.

Among the 23 respondents who were active in the study area, 12 resided or were employed there during the 1975-76 season. Although the following section deals specifically with survey results of study area fishing by area residents during the same season, these 12 respondents in the provincial survey were singled out to determine their fishing costs since this was not done for the AOSERP study area fishing survey. The results of study area resident fishing costs are summarized in Apprendix 8.2, Table 41. Average total variable fishing costs were $176.00 per person for the season or 65 percent of the provincial average. Average capital fishing costs were $445.33 per person or 85 percent of the provincal average. Average total fishing costs, including the license fee, were $625.33 per person for the season or 78.5 percent of the provincal average. Based on the 2,503 anglers who resided in the study area, total fishing expenditures for the 1975-76 season amounted to $1,565,201.00 or 1.2 percent of province-wide angler costs.

4.8 SUMMARY

Among the approximately 197,000 resident fishing license holders during the 1975-76 fishing season, the average age was 36.27 years, the average family income was $17,471, and the average family size was 3.36 persons. The 164,100 license holders of the 197,000 total who engaged in fishing activities incurred average fishing costs of $796.75 for a provincial total of $130,746,675.00 for the season. Extramarket benefits over and above those costs amounted to $140.60 per person, for a provincial season total of $23,072,460.00. These benefits, along with license fees, represent the value of the fishing resource in the province of actual recreational fishing activity by resident license holders. This value averaged $144.60 per participant for a provincial total of $23,728,860.00 for the season.

Among the 164,100 active resident anglers during the 1975-76 season, the average number of recreational fishing days was 10.05 days per person, the average number of trips was 8.89 per person, the average number of days per trip was 1.13 days per trip per person and the average party size per trip was 2.95 persons. The total number of recreation fishing days for resident anglers in the province during the 1975-76 season was 1,649,205 days. The provincial total number of trips was 1,458,849. Each angler, on average, drove 2,095.88 km (1,301.54 miles) during the season or an average of 235.75 km (146.40 miles) per trip. The province-wide total distance driven by the anglers was 343 933 518 km (213,582,714 miles). The total creel count averaged 35.28 fish per person for a provincial total of 5,789,448 fish.

5. AOSERP STUDY AREA FISHING SURVEY RESULTS

Among the 455 AOSERP study area survey questionnaires returned (Table 1), 438 were usable. Detailed results of the survey returns are contained in Appendix 8.3 and summarized and discussed in this section of the report. A comparison between first and second mailings for selected variables was made to see if there was evidence of nonresponse bias. There was not significant difference between the results of the two mailings, supporting the assumption that nonresponse bias does not exist (Appendix 8.3, Table 68). Consequently, the results of both mailings are combined and inferences from the sample of the 438 respondents about the population of approximately 3,038 study area fishing license holders during the 1975-76 season are made directly; that is, the 438 sample respondents are taken as representative of the population without the use of any adjustments or weighting procedures.

5.1 SOCIOECONOMIC CHARACTERISTICS

Most of the AOSERP study area fishing license holders during the 1975-76 season resided in Fort McMurray (88.1 percent). The remaining license holders resided elsewhere within the study area (3.6 percent), elsewhere within the province (5.7 percent), out of province (1.9 percent), or in unspecified locations (0.7 percent). Those respondents residing outside of the AOSERP study area were employed or resided in the study area during the 1975-76 season (Appendix 8.3, Table 47).

The age distribution of license holders ranged from 13 to 61 years of age with an average age of 32.76 years. The median age is 31 years and the modal age is 38 years. The age distribution has a sample standard deviation of 9.2 years (Appendix 8.3, Table 48).

The male-female distribution of area fishing survey respondents indicates that 78 percent of license holders were male and 22 percent female (Appendix 8.3, Table 49).

Among 17 occupation categories, tradesmen accounted for 18.4 percent, followed by professional and technical occupations, 18 percent, managerial occupations, 14.9 percent, and homemaker, 12.3 percent. The distribution of license holders in other categories was less than 10 percent each (Appendix 8.3, Table 50).

Family size ranged from one to nine persons in a household with the average size being 3.68 persons. The mode and median were both four persons and the sample standard deviation was 1.7 persons (Appendix 8.3, Table 51).

Approximately one half of the study area license holders had annual family incomes between $15,000 and $25,000. The average family income per family was $21,973. With an average family size of 3.68 persons, the per capita income is an estimated $5,971. Approximately 21 percent of the license holders had annual family incomes of $15,000 or less and 29 percent of the license holders hand annual family incomes of more than $25,000 (Appendix 8.3, Table 52).

The distribution of formal education of AOSERP study area fishing survey respondents indicates that 21.2 percent attained high school matriculation, 21.8 percent had at least one year of university, and 22.9 percent completed at least one year of formal technical training, bring the total to 65.9 percent. Among the area license holders, 96.9 percent had at least seven years of formal education (Appendix 8.3, Table 53).

In summary, a typical 1975-76 fishing license holder in the AOSERP study area is 33 years of age (three years younger than the average provincial license holder), has achieved 12 years of formal education, is a member of a family of 3 to 4 persons, and receives a family income of $21,973 per year ($4,502 higher than the average provincial license holder).

5.2 FISHING EXPERIENCE

Among the 3,038 AOSERP study area fishing license holders in the 1975-76 season, 90 percent or 2,734 persons had fished for sport prior to that time. The remaining 10 percent had no such previous experience (Appendix 8.3, Table 54). The number of area license holders who fished in Alberta prior to the 1975-76 season amounted to 81.3 percent or 2,470 persons, while the remaining 18.7 percent had no such previous experience (Appendix 8.3, Table 55). The proportion of study area license holders who fished in the area prior to the 1975-76 season amounted to 69.6 percent or 2,114 persons while the remaining 30.4 percent had no such previous experience (Appendix 8.3, Table 56). At the close of the 1975-76 season, 90.2 percent or 2,740 persons had fished in Alberta during that season. The remaining 9.8 percent had never fished in the province during the 1975-76 season (Appendix 8.3, Table 57).

During the 1975-76 fishing season 82.4 percent of study area license holders fished at least once in the area; that is, among the 3,038 fishing license holders, 2,503 fished at least once in the AOSERP study area during the 1975-76 season. The remaining 535 (17.6 percent) did not fish in the area during the season and it is estimated that all but approximately one percent of the anglers did not fish anywhere else during the season either, although they had purchased a license (Appendix 8.3, Table 58).[1]

The balance of this section of the report focuses on the 82.4 percent of AOSERP study area resident provincial fishing license holders who actually fished during the 1975-76 season. The sample size is 361 survey respondents and the estimated population of active license holders is 2,503 persons (Appendix 8.3, Table 58).

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[1] This result suggests that the option to fish for approximately 500 of the 535 persons was worth at least $4.00 per person (license fee) even though they did not exercise that option. The extramarket portion of this option value has not been estimated. Consequently, the $2,000 is a market portion of the total option value to fish and may only be a small portion of the total option value (market plus extramarket benefits).

The reason for this focus is the fact that the subsequent information relates to fishing activities in the study area. Those respondents who did not fish in the area during the 1975-76 season were asked only to provide information pertaining to socioeconomic characteristics and fishing experience discussed to this point and return the questionnaire (Appendix 8.3, survey questionnaire, item 9).

Of those study area license holders who actually fished in the area, 73.6 percent rated their fishing experiences fair or better with 10.0 percent rating their experiences as very good, 27.5 percent as good, and 36.1 percent as fair. The remaining respondents rated their experiences as poor (15.8 percent) or very poor (10.6 percent) (Appendix 8.3, Table 59).

5.3 FISHING ACTIVITY COSTS AND BENEFITS

Recipients of the AOSERP study area fishing survey questionnaire were not asked to provide fishing cost estimates. However, 12 of the 459 respondents (2.6 percent) in the provincial fishing survey (previous section) did reside in the study area and provided cost information (Appendix 8.2, Table 41). Since these same respondents spent virtually all of their angling days in the study area (over 90 percent) (Appendix 8.2, Table 43) this cost information is taken to be representative of all study area residents who fished in the area during the 1975-76 season. An AOSERP study area angler spent, on average, $625.33 for the 1975-76 season. Total variable costs per person per season accounted for $176.00 of this total and include the following: travel costs, $76.67; lodging, $7.50; food, $24.58; beverages, $26.83; rentals, $0.83; and fishing gear, $39.58. Capital purchases per person per season accounted for $445.33 of the average total fishing costs. The license fee of $4.00 per person brings the total to $625.33 per person per season. Based on the 2,503 anglers who resided and fished in the area, total fishing costs (expenditures) for the 1975-76 season amount to $1,565,201.00 annually or 1.2 percent of province-wide angler costs.

The benefits, over and above fishing costs, to those study area residents who fished in the area during the 1975-76 season are extramarket benefits. AOSERP study area anglers received an average of $11.74 per day or $106.36 per season in such benefits (Appendix 8.3, Table 60).[1] Based on the estimated 2,503 study area resident anglers, total extramarket benefits for the season amount to $266,230.00 annually or 1.15 percent of province-wide benefits.

The value of the fishing resource to study area resident anglers consists of a market component (the license fee) and an extramarket component (the extramarket benefits). On this basis, the value of fishing resources to active study area resident anglers is $110.36 per person annually. Based on the estimated 2,503 area resident anglers, total study area fish resource value to resident anglers is $276,231.00 or 1.16 percent of the provincial angler fish resource value. This annual value does not include the recreational or option value of the fish resource to resident anglers residing outside of the study area nor to other Canadians and non-Canadian anglers. Furthermore, it does not include the recreational or option value of the study area fish resource to non-anglers nor its value from commercial and other nonrecreational uses.

5.4 FISHING ACTIVITY

AOSERP study area resident anglers spent an average of 9.06 days per angler fishing in the area during the 1975-76 season (Appendix 8.3, Table 61). This involved an average of 10.47 trips per person with a duration of 0.98 days per trip. Mode, median, standard deviation, and range for all three averages as well as party size, distance travelled, and fish caught are given in Appendix 8.3, Table 61. On the basis of 2,503 study area resident anglers

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[1] The season average is based on the average number of days fished in the study area of 9.06 days. Hence, $11.74 per day times 9.06 days per season equals $106.36 per season.

during the 1975-76 season, total recreation days of fishing amounted to 22,677 days (1.38 percent of the provincial total) and total number of fishing trips amounted to 26,212 trips (1.8 percent of the provincial total). The average party size per trip was 2.91 persons.

Each area angler travelled an average of 803.18 km (498.78 miles) or 76.65 km (47.64 miles) per trip (Appendix 8.3, Table 61). The average distance from residence to fishing site was 38.36 km (23.82 miles), considerably less than the provincial average 117.8 km (73.2 miles). In terms of total distance travelled for all study area resident anglers during the 1975-76 season, the combined distance was 2 010 380 km (1,248,446 miles) or 0.58 percent of the provincial total.

The total number of fish caught per person during the 1975-76 season averaged 32.72 fish or 3.61 fish per day or 3.13 fish per trip (Appendix 8.3, Table 61). The combined total amounted to 81,878 fish or 1.41 percent of the total provincial catch. Of the total number of fish caught, Great Northern Pike accounted for 52.31 percent; Yellow Walleye, 24.78 percent; Arctic Grayling, 13.62 percent; Trout, 4.33 percent; Yellow Perch, 3.73 percent; Goldeye, 1.08 percent; and Splake, Sucker, and Whitefish combined accounting for 0.15 percent (Appendix 8.3, Table 64). The total number of trips taken for each species represents the number of times that species has been sought by study area resident anglers during the 1975-76 season. Great Northern Pike and Yellow Walleye are by far the most sought after species--49.19 percent and 38.27 percent of the time, respectively. Other species, in descending order of preference, are as follows: Arctic Grayling, 7.64 percent; Trout, 2.07 percent; Goldeye, 1.76 percent; Perch, Splake, Sucker, and Whitefish combined, 1.07 percent.

Teh geographical distribution of fishing activities is given by subbasin (Figure 2) and by AOSERP study area grid number (Figure 3) for 355 study area resident angler survey respondents in Appendix 8.3, Tables 62, 63, 65, and 66. The number of respondents represents 14.18 percent of the estimated 2,503 study area

resident anglers for the 1975-76 season. The sample raising factor, to convert "number of respondents" in Tables 62 and 63 and "total number of trips taken" and "total number of fish caught" in Tables 65 and 66 to population estimates, is 7.05. An example, using subbasin 733 located in Figure 2, illustrates the procedure. Table 62 indicates 68 respondents fished in that part of subbasin 733 located in the study area. The estimated total number of study area resident anglers in the subbasin during the 1975-76 season is 68 x 7.05 or 479 persons. Each of the 479 persons fished an average of 3.0 days on 4.2 trips for an average of 0.7 days per trip. The average party size was 2.3 persons. Each of the 479 persons travelled, on average, a total of 100.5 km (62.4 miles) or 24.0 km (14.9 miles) per trip in connection with subbasin 733 fishing activity and caught an average of 5.0 fish. Table 65 further indicates that unspecified species were sought on 18 x 7.05 or 127 trips and 3 x 7.05 or 21 were caught, Goldeye was sought on 9 x 7.05 or 63 trips and 8 x 7.05 or 56 were caught, Grayling was sought on 24 x 7.05 or 169 trips and 34 x 7.05 or 240 were caught, Pike was sought on 99 x 7.05 or 698 trips and 72 x 7.05 or 508 were caught, and Walleye was sought on 196 x 7.05 or 1,382 trips and 226 x 7.05 or 1,593 were caught. The same procedure is used for AOSERP study area grid locations (Figure 3) on similar data contained in Tables 63 and 66. The larger the number of survey respondents for either a subbasin or study area grid location, the more reliable the estimates of population totals. Consequently, greater caution should be used in interpreting estimates for subbasins or grid locations in which the number of respondents are but a few. In particular, caution should be used with subbasins 750 and 770 and grid numbers 3 and 8.

Each study area resident angler during the 1975-76 season caught an average of 32.72 fish in the AOSERP study area in an average of 1.8 subbasins. The average catch per person per subbasin

was 18.18 fish. The angler success rates among the 10 subbasins represented range from 5.0 to 129.0 fish per person (Appendix 8.3, Table 62). Subbasin 760 provided the highest success rate of 129.0 fish per person, followed by subbasin 750 with 65.0 fish per person, subbasin 739 with 22.7, subbasin 770 with 22.0, subbasin 735 with 18.6, and subbasin 736 with 18.5. These subbasins are all above average in angler success rates. An average of 2,621 trips were made to that portion of a subbasin located within the study area by area resident anglers in which all species were sought 3,516 times and the total catch was 8,188 fish. The results in Table 4 indicate that subbasins 734 and 735 are well above average in total number of trips and in total number of times species were sought. Subbasins 734, 735, 736, and 760 were above average in total number of fish caught.

Each study area resident angler during the 1975-76 season fished in an average of 1.7 grid locations (Figure 3). The average catch per person per grid location was 19.25 fish. The angler success rates among the 10 grid locations ranged from 2.0 to 73.5 fish per person (Appendix 8.3, Table 63). Grid number 1 provided the highest success rate of 73.5 fish per person followed by number 2 with 28.0 fish per person and number 10 with 20.3 fish per person. These three grid locations were all above average in angler success rates. On average, 2,621 trips were made to an AOSERP study area grid location by area resident anglers in which all species were sought 3,516 times and the total catch was 8,188 fish. The results in Table 5 indicate that grid numbers 9 and 10 are well above average in total number of trips and in total number of times species were sought. Grid numbers 1, 2, 9, and 10 are above average in total number of fish caught.

In summary, there were an estimated 2,503 AOSERP study area resident anglers during the 1975-76 season who spent an average of 9.06 days fishing the area for a total of 22,677 days (1.38 percent of the provincial total). The number of trips averaged 10.47 for a total of 26,212 trips (1.8 percent of the provincal total).

Table 4. Estimated number of trips, number of times species sought, and total catch by subbasin for resident AOSERP study area anglers, 1975-76 season.[a]

Subbasin[b]	Estimated Total No. of Trips	Estimated No. of Times Species were Sought	Estimated Total No. of Fish Caught
733	2,030	2,439	2,418
734	6.056	7,727	14,022
735	13,607	18,774	34,229
736	2,376	3,419	11,343
737	296	395	733
738	254	289	1,283
739	458	649	3,997
750	190	204	917
760	818	1,135	11,823
770	21	21	310
Not Specified	106	106	733
TOTAL	26,212	35,158[c]	81,878

[a]Source: Appendix 8.3, Table 65 and application of the sample raising factor of 7.05.

[b]Subbasin locations are given in Figure 2.

[c]Among the 26,212 trips, two species were sought on 8,946 trips and one species was sought on 17,266 trips, bring the total number of times sought to (8,946 x 2) + 17,266 or 35,158 times sought.

Table 5. Estimated number of trips, number of times species sought, and total catch by grid location for resident AOSERP study area anglers, 1975-76 season.[a]

AOSERP Study Area Grid No.[b]	Estimated Total No. of Trips	Estimated No. of Times Species were Sought	Estimated Total No. of Fish Caught
1	1,517	2,066	17,096
2	592	931	8,495
3	28	28	14
4	289	331	1,410
5	56	63	14
6	585	698	1,001
7	1,439	2,080	3,285
8	226	416	212
9	5,184	6,190	11,372
10	16,296	22,355	38,979
TOTAL	26,212	35,158[c]	81,878

[a]Source: Appendix 8.3, Table 66 and application of the sample raising factor of 7.05.

[b]Grid locations are given in Figure 3.

[c]Among the 26,212 trips, two species were sought on 8,946 trips and one species was sought on 17,266 trips, bringing the total number of times sought to (8,946 x 2) + 17,266 or 35,158 times sought.

Each area resident angler, on average, travelled 803.19 km (498.78 miles) for fishing within the study area for a total of 2 010 380 km (1,248,446 miles) which is 0.58 percent of the provincial total for all study area resident anglers. Each angler visited, on averaged, 1.7 grid locations and caught an average of 32.72 fish during the season. The total number of fish caught in the study area by all study area resident anglers totaled an estimated 81,878 fish (1.41 percent of the provincial total) of which 52.31 percent were Great Northern Pike and 24.78 percent were Yellow Walleye. In terms of numbers of times sought, Pike and Walleye were strongly preferred (49.19 percent and 38.27 percent respectively).

5.5 COMMENTS

Each resident AOSERP study area questionnaire recipient was given an opportunity to make comments which would help in an evaluation of study area fishing activity. Among the 361 respondents who fished in the area during the 1975-76 season, 184 gave no comment, 87 provided one comment, and 90 provided two comments, for a total of 267 comments (Appendix 8.3, Table 67). Among the 267 comments, 155 focused on improvements which could enhance the quality of fishing experiences. Those improvements mentioned most frequently were better access to lakes and rivers, better facilities (including campgrounds), reduced overcrowding, more fish stocking, and reduced pollution. The other reasons given for improvements are summarized in Table 67.

Among the remaining comments, 17 indicated that fishing is good, followed by 13 comments indicating that fishing is deteriorating. Another 12 comments depicted fishing as a good recreational activity, followed by 9 comments which indicated that fly-in fishing expenses make it an elitist activity. Fishing as a great sport was mentioned in 8 comments, fishing as priceless in 6 comments, and fishing as being poor in 6 comments. Various other comments made up the balance of the 267 comments and are presented in Appendix 8.3, Table 67.

5.6 SUMMARY

Among the 3,038 AOSERP study area resident license holders during the 1975-76 season, the average age was 32.76 years, the average family income was $21,973, and the average family size was 3.68 persons. The 2,503 license holders (out of the 3,038 total) who engaged in fishing activities in the study area incurred average fishing costs of $625.33 for an area resident angler total of $1,565,201.00 (1.2 percent of the provincial total) for the season. Extramarket benefits, over and above these costs, amounted to $106.36 per person, for a season total of $266,230.00 (1.15 percent of the provincial total). These benefits, along with license fees, represent the value of the fishing resource in the AOSERP study area to study area resident anglers. This value averaged $110.36 per person for a total of $276,231.00 (1.16 percent of the provincial total) for the season.

Among the 2,503 area resident anglers during the 1975-76 season, the average number of recreational fishing days in the study area was 9.06 day per person, the average number of trips was 10.47 trips per person, the average number of days per trip was 0.98 days per trip per person, and the average party size per trip was 2.91 persons. The total number of recreation fishing days for area resident anglers in the study area during the 1975-76 season was 22,677 days (1.38 percent of the provincial total). The associated total number of trips was 26,212 trips (1.8 percent of the provincial total). Each study area resident angler, on average, drove 803.19 km (498.78 miles) during the season or an average of 76.71 km (47.64 miles) per trip. The total distance driven by all study are resident anglers was 2 010 380 km (1,248,446 miles), which is 0.58 percent of the provincial total. The total study area creel count averaged 32.72 fish per person for a study area resident angler total of 81,878 fish (1.41 percent of the provincial total).

6. SUMMARY AND CONCLUSIONS

The focus of this study is a socioeconomic evaluation of recreational fishing activity in Alberta by Alberta residents with particular emphasis given to the AOSERP study area (Figure 1). Socioeconomic information is essential in the assessment of recreational fishing activity and, when combined with physical and biological information, it is possible to ascertain the importance of recreational fish resource uses in relation to other fish resource uses and in relation to other resource use patterns which may alter fish habitat.

The study reported herein was carried out with the intent of achieving the following objectives:

1. To ascertain the socioeconomic characteristics of participants in the AOSERP study area and throughout the province;
2. To establish a detaile profile of recreational fishing activities in the AOSERP study area and throughout the province, particularly with regard to activity locations, durations, expenses, creel counts, and species of fish;
3. To determine the number of recreational fishing days expended by Albertans in the AOSERP study area and throughout the province;
4. To examine the desirability of different species of fish in the AOSERP study area and throughout the province; and
5. To estimate the value of fish resources used for recreational purposes in the AOSERP study area and throughout the province.

The results obtained in meeting these objectives are summarized here. The results pertaining to the first objectives are presented under the headings "Socioeconomic Characteristics" and "Fishing Experience". The results pertaining to the fifth objective

are presented under "Fishing Activity Costs and Benefits". Finally, the results pertaining to the second, third, and fourth objectives are presented under the heading "Fishing Activity".

Two mail questionnaires were designed and utilized to obtain the information required to meet the objectives of this study (Appendix 8.1). One questionnaire was for a randomly cited systematic sample of 1,967 recipients from the 197,000 Alberta resident fishing license holders during the 1975-76 season. The other questionnaire was for a randomly cited systematic sample of 2,112 recipients from the 3.038 AOSERP study area resident fishing license holders during the same season. The initial mailing to both sample recipients was followed by a second mailing to nonrespondents of the initial mailing. The combined response of first and second mailings to the provincial survey was 582 (31.7 percent), of which 551 returns were usable. The combined response to the study area survey was 455 (24.4 percent), of which 438 were usable (Table 6). A comparison between first and second mailings for selected variables from both survey results was made to see if there was evidence of nonresponse bias. There was no such evidence in either survey. Detailed results of the provincial fishing survey are contained in Appendix 8.2 and detailed results of the AOSERP study area fishing survey are contained in Appendix 8.3.

6.1 SOCIOECONOMIC CHARACTERISTICS

Among the 197,000 Alberta fishing license holders during the 1975-76 fishing season, nearly one half (48 percent) resided in Edmonton and Calgary; the remainder were widely dispersed throughout the province. Residents of the study area (3,038 persons) accounted for 1.54 percent of all Alberta resident license holders. Approximately 88 percent of study area license holders resided in Fort McMurray. The average age province-wide was 36.27 years, whereas the generally young study area license holders averaged 32.76 years of age (Table 6). The proportion of males among provincial license holders was 84 percent and among study area license

Table 6. Socioeconomic characteristics and fishing experience of provincial and AOSERP study area fishing license holders, 1975-76 season.

Item	Alberta Residents	AOSERP Study Area Residents
No. of Fishing License Holders (persons)	197,000	3,038
No. of Survey Respondents (persons)	551	438
Average Age (years)	36.27	32.76
Proportion of Male Respondents (percent)	84.00	78.00
Average Family Size (persons)	3.36	3.68
Average Family Income (dollars)	$17,471.00	$21,973.00
Average Formal Education (years)	12.00	12.00
Fished Prior to the 1976-76 Season (percent)	92.50	90.00
Fished in Alberta Prior to the 1975-76 Season (percent)	90.10	81.30
Fished in the Study Area Prior to the 1975-76 Season (percent)		69.60
Fished in the Study Area During or Prior to the 1975-76 Season (percent)	9.40	
Fished in Alberta During the 1975-76 Season (percent)	83.30	90.20
Fished in the Study Area During the 1975-76 Season (percent)	4.20	82.40
Estimated No. of Resident Anglers During the 1975-76 Season (persons)	164,100	2,503

holders, 78 percent. Study area resident license holders tended to be from larger families than those in the province as a whole (3.68 persons per family compared to 3.36 persons per family) (Table 6).

Among 17 occupation categories for provincial license holders, tradesmen accounted for 17.5 percent, followed by professional and technical occupations, 16 percent, and managerial occupations, 10.2 percent; other categories represented less than 10 percent each. Among AOSERP study area resident license holders, tradesmen accounted for 18.4 percent, followed by professional and technical occupations, 12.3 percent; other categories represented less than 10 percent each.

Annual family income was generally higher for study area resident license holders than for the provincial group as a whole. One half of the provincial resident license holders had annual family incomes between $10,000 and $20,000 with an average of $17,471 per family. One half of the study area resident license holders had annual family incomes between $15,000 and $25,000 with an average of $21,973 per family (Table 6).

The distribution of years of formal education for provincial resident license holders and AOSERP study area license holders was quite similar. Both groups had an average of 12 years of formal education (Table 6). The provincial distribution indicates that 23.7 percent had high school matriculation, 18.7 percent had at least one year of university and 20.9 percent completed at least one year of formal technical training, bringing the total to 63.3 percent. Approximately 98 percent had at least seven years of formal education. The AOSERP study area distribution indicates that 21.2 percent had high school matriculation, 21.8 percent had at least one year of university, and 22.9 percent completed at least one year of formal technical training, bringing the total to 65.9 percent. Approximately 97 percent had at least seven years of formal education.

6.2 FISHING EXPERIENCE

Among the 197,000 provincial resident fishing license holders, 92.5 percent had fishing experiences prior to the 1975-76 season. Among the 3,038 AOSERP study area resident fishing license holders the proportion was 90 percent (Table 6). Those provincial license holders who fished in Alberta prior to the 1975-76 season accounted for 90.1 percent of all provincial license holders, whereas those AOSERP study area license holders who fished in Alberta prior to the 1975-76 season accounted for only 81.3 percent of all study area license holders. Only 9.4 percent of provincial license holders had ever fished in the study area. Among the study area license holders, only 69.6 percent had fished in the study area prior to the 1975-76 fishing season (Tables 6 and 7).

During the 1975-76 fishing season, 83.3 percent of provincial license holders engaged in fishing in Alberta; that is, there were approximately 164,100 resident anglers (by inference) who were active during the season. Among these anglers an estimated 8,240 persons, or 4.2 percent of provincial license holders, fished in the AOSERP study area (Tables 6 and 7).

Among study area resident license holders, 90.2 percent fished in Alberta during the 1975-76 season. Nearly all of these (82.4 percent or 2503 persons, Tables 6 and 7) were active in the study area.

The balance of this summary focuses only on active resident anglers during the 1975-76 season. These include 164,100 provincial resident anglers who were active throughout the province, 8,240 provincial resident anglers (5.02 percent of the provincial total), and 2,503 study area resident anglers who were active in the study area (1.53 percent of the provincial total) (Table 7).

AOSERP study area resident anglers tended to rate their fishing experiences in the area during the 1975-76 season better than provincial resident anglers rated their fishing experiences

Table 7. Ratings, costs, and benefits for fishing activities of provincial and AOSERP study area resident anglers, 1975-76 season.[a]

Item	Alberta Residents	AOSERP Study Area Residents
No. of Resident Anglers (persons)	164,100	2,503
No. of Angler Survey Respondents (persons)	459	361
No. of Anglers Active in the AOSERP study area (persons)	8,240	2,503
Rating of Fishing Experiences (percent)		
- very good	6.2	10.0
- good	25.0	27.5
- fair	35.8	36.1
- poor	22.8	15.8
- very poor	10.2	10.6
Rating of Study Area Fishing Compared to Provincial Fishing (percent)[b]		
- better than	19.0	
- as good as	52.4	
- worse than	28.6	
Annual Total Fishing Costs per Person (dollars)	796.75	625.33
Annual Extramarket Benefits per Person (dollars)	140.60	106.36
Annual Value per Person Attributable to Fish Resource (dollars)	144.60	110.36
Annual Total Angler Fishing Costs (dollars)	$130,746,576,675.00	1,565,201.00
Annual Total Angler Extramarket Benefits (dollars)	23,072,460.00	266,230.00
Annual Total Angler Value of Fish Resource (dollars)	23,728,860.00	276,231.00

[a] Includes only those study area residents who fished in the area during the 1975-76 season.

[b] An estimated 8,240 Alberta resident anglers out of the total 164,100 anglers fished in the study area during the 1975-76 season. The corresponding sample size was 23 out of 459 respondents.

throughout the province. Study area ratings were as follows: very good, 10.0 percent; good, 27.5 percent; fair, 36.1 percent; poor, 15.8 percent; and very poor, 10.6 percent. Provincial resident anglers rated their province-wide fishing experiences as follows: very good; 6.2 percent; good, 25.0 percent; fair, 35.8 percent; poor, 22.8 percent; and very poor, 10.2 percent (Table 7).

Provincial resident anglers who fished in the study area during the 1975-76 season rated their area fishing experiences in comparison with their provincial fishing experiences as follows: study area fishing better than provincial fishing, 19.0 percent; study area fishing as good as provincial fishing, 25.4 percent; and study area fishing worse than provincial fishing, 28.6 percent (Table 7).

6.3 FISHING ACTIVITY COSTS AND BENEFITS

Annual total fishing costs included fishing trip costs (which are made up of travel, lodging, food, beverage, rental, fishing service, and miscellaneous costs), fishing license costs, and capital purchase costs allocated to fishing activities. The costs to provincial resident anglers averaged $796.75 per person. Based on the 164,100 anglers in the province, the provincial total of annual fishing costs for the 1975-76 season was $130,746,675. Annual total fishing costs for study area resident anglers averaged $625.33 per person for a total of $1,565,201 (1.2 percent of the provincial total) (Table 7). The lower costs per person for these anglers is primarily due to the fact that they spend less time fishing and travel much shorter distances (Table 8).

Extramarket benefits over and above fishing costs is a partial measure of the value of fishing to anglers. The annual extramarket benefits to resident anglers averaged $140.60 per person for a provincial total of $23,072,460. Annual extramarket benefits to study area anglers averaged $106.36 per person for a total of $266,230 (1.15 of the provincial total) (Table 7). The lower annual average for these anglers is in part accounted for by the fact that

Table 8. Fishing activities of provincial and AOSERP study area resident anglers, 1975-76 season.

Item	Fishing Activities of Alberta Resident Anglers in Alberta	Fishing Activities of Alberta Resident Anglers in the AOSERP Study Area	Fishing Activities of AOSA Resident Anglers in the AOSERP Study Area
No. of Resident Anglers (persons)	164,000	8,240	2,503
Average No. of Angler Days per person (days)	10.05	6.60[a]	9.06
Average No. of Trips per Person (trips)	8.89	4.70	10.47
Average No. of Angler Days per Trip per Person (days)	1.13	1.40	0.98
Average Party Size per Trip (persons)	2.95	3.20	2.91
Average Distance Travelled per Person km(miles)	2095.88(1,301.54)	1423.51(884.00)	803.19(498.78)
Average Distance Travelled per Trip per Person km(miles)	235.75(146.40)	301.12(187.00)	76.71(47.64)
Average Distance from Residence to Site per Person km(miles)	117.88(73.20)	150.56(93.50)	38.36(23.82)
Average No. of Fish Caught per Person (fish)	35.28	20.00	32.72
Average No. of Fish Caught per Day per Person (fish)	3.51	3.03	3.61
Total No. of Angler Days (days)	1,649,205	54,384[a]	22,677

Continued ...

Table 8. Concluded.

Item	Fishing Activities of Alberta Resident Anglers in Alberta	Fishing Activities of Alberta Resident Anglers in the AOSERP Study Area	Fishing Activities
Total No. of Trips (trips)	2 349 193(1,458,849)	62 364(38,728)	42 209(26,212)
Total Distance Travelled km(miles)	343 868 169.54(213,582,714)	111 727 497(7,284,160)	2 010 380(1,248,446)
Total No. of Fish Caught (fish)	5,789,448	164,442	81,878

[a] This figure represents 62 percent of total fishing time spent in the Province by those Alberta resident anglers who fished in the study area among other Alberta locations.

they spend less time fishing (Table 8). However, even with this adjustment, AOSERP study area resident anglers are below the provincial average ($11.74 extramarket benefits per day compared to the provincial average of $13.99 per day), despite the fact that they tended to rate study area fishing higher than provincial anglers rated provincial fishing.

The value of fishing resources to anglers consists of a market component (the license fees) and an extramarket component (the extramarket benefits derived from fishing). On this basis, the annual value of Alberta's fishing resources to resident anglers is $144.60 per person for a provincial total of $23,728,860. The annual value of study area fishing resources to study area resident anglers is $110.36 per person for a total of $276,231 (1.16 percent of the provincial total). The provincial annual value of Alberta's fishing resource does not include the recreational value of the fish resource to those residents who do not fish nor the recreational value to other Canadians and non Canadians. Furthermore, it does not include the value of the fish resource from commercial and other nonrecreational uses.

6.4 FISHING ACTIVITIES

The 164,100 Alberta resident anglers spent a total of 10.05 days per person or 1,649,205 days fishing in Alberta during the 1975-76 season (Table 8). The number of trips averaged 8.89 per person for a total of 1,458,849 trips, bringing the number of days per trip to 1.13. The average fishing party size was 2.95 persons. Among the 164,100 Alberta resident anglers, 8,240 anglers fished in the study area during the 1975-76 season which accounted for 62 percent of their time spent fishing. The number of fishing days spent in the study area was 6.6 days per person or a total of 54,384 days (3.3 percent of the provincial total). The associated number of trips was 4.7 trips per person for a total of 38,728 trips (2.65 percent of the provincial total) bringing the average number of days per trip to 1.40. The average fishing

party size was 3.2 persons (Table 8). The 2,503 study area resident anglers fished in the study area during the 1975-76 season a total of 9.06 days per person for a total of 22,677 days (1.38 percent of the provincial total). The associated number of trips was 10.47 trips per person for a total of 26,212 trips (1.8 percent of the provincial total) bringing the number of days per trip to 0.98. The average fishing party size was 2.91 persons (Table 8).

The 164,100 Alberta resident anglers travelled during the 1975-76 season a total of 2,094.17 km (1,301.54 miles) per person or 343 868 169 km (213,582,714 miles) on their fishing trips. The average distance per trip was 235.75 km (146.40 miles) and the average distance from residence to fishing site was 117.88 km (73.20 miles) (Table 8). The 8,240 Alberta resident anglers who fished in the AOSERP study area an average of 62 percent of the time during the 1975-76 season travelled a total of 1,423 km (884 miles) per person or 11 729 726 km (7,284,160 miles) which is 3.41 percent of the provincial total, in connection with study area fishing trips. The average distance per trip was 301 km (187 miles) and the average distance from residence to study area fishing sites was 150.6 km (93.5 miles) in Table 8. The 2,503 study area resident anglers travelled during the 1975-76 season a total of 803.19 km (498.78 miles) per person or 2 010 380 km (1,248,446 miles), which is 0.58 percent of the provincial total, in connection with study area fishing trips. The average distance per trip was 76.71 km (47.64 miles) and the average distance from residence to the study area fishing site was 38.36 km (23.82 miles) (Table 8).

The 164,100 Alberta resident anglers caught a total of 35.28 fish per person during the 1975-76 season for a total catch of 5,789,448 fish. The average number of fish caught per day was 3.51 fish (Table 8). The 8,240 Alberta resident anglers who fished in the AOSERP study area an average of 62 percent of the time during the 1975-76 season caught a total of 20 fish per person there for a total study area catch of 164,442 fish (2.84 percent

of the provincial total). The average catch per day was 3.2 fish (Table 8). The 2,503 study area resident anglers caught a total of 32.72 fish per person in the area during the 1975-76 season for a total catch of 81,878 fish (1.41 percent of the provincial total). The average catch per day was 3.61 fish (Table 8).

The results presented here indicate that AOSERP study area resident anglers tend to spend less time, take more trips, travel much shorter distances, and have a slightly higher success rate in connection with study area fishing than Alberta anglers generally. There are also differences in the proportions of different species caught, partly due to the fact that the availability of different species in the area differs from the species available province-wide. The total catch of 5,789,448 fish during the 1975-76 season by Alberta resident anglers is allocated among the following species: Great Northern Pike, 21.45 percent; Trout, 30.88 percent; Yellow Perch, 15.62 percent; Yellow Walleye, 9.70 percent; Whitefish, 7.81 percent; Arctic Grayling, 3.26 percent; and Dolly Varden, Goldeye, and Sauger combined, 1.28 percent. The total study area catch of 81,878 fish during the 1975-76 season by area resident anglers is allocated among the different species as follows: Great Northern Pike, 52.31 percent; Yellow Walleye, 24.78 percent; Arctic Grayling, 13.62 percent; Trout, 4.33 percent; Yellow Perch, 3.73 percent; Goldeye, 1.08 percent; and Splake, Sucker, and Whitefish combined, 0.15 percent.

Angler preferences for different species, measured in terms of the number of tips each species was sought, is in part also dependent on species availability, but nevertheless differs from the profile of total catch by species and differs between AOSERP study area resident anglers and Alberta resident anglers. Alberta resident angler preference for different species was as follows: Great Northern Pike, 33.12 percent; Trout, 32.85 percent; Yellow Walleye, 13.43 percent; Yellow Perch, 11.14 percent; Whitefish, 5.38 percent; Arctic Grayling, 2.68 percent; Goldeye, 1.22

percent; and Sauger, Dolly Varden, and Chub combined, 0.18 percent. Study area resident angler preferences for different species are as follows: Great Northern Pike, 49.19 percent; Yellow Walleye, 38.27 percent; Arctic Grayling, 7.64 percent; Trout, 2.07 percent; Goldeye, 1.76 percent; and Perch, Splake, Sucker, and Whitefish combined, 1.07 percent.

The geographical distribution of fishing activities of Alberta resident anglers is quite varied among the subbasins throughout the province (Figure 2). Each angler during the 1975-76 season caught, on average, 35.28 fish in an average of 2.3 subbasins. The average catach per person per subbasin is 15.34 fish. The angler success rates among the subbasins ranged from 0.0 to 46.6 fish per person. On average, 15,687 trips were made per subbasin in which the total catch averaged 62,252 fish for the season. The number of trips ranged from 358 to 70,872 trips and the total catch ranged from 0 to 398,430 fish. Those subbasins that were above average in angler success rates, total catch and number of times a species was sought are as follows: 511, 525, 541, 564, 611, 612, 613, 716, 718, 720, 722, 725, 731, and 748.

Each study area resident angler during the 1975-76 season fished in an average of 1.7 study area grid locations (Figure 3). The average catch per person per grid location was 19.25 fish. The angler success rates among the 10 grid locations ranged from 2.0 to 73.5 fish per person. Grid number 1 provided the highest success rate of 73.5 fish per person, followed by number 2 with 28.0 fish per person, and number 10 with 20.3 fish per person. These three grid locations are all above average in angler success rates. On average, 2,621 trips were made to an AOSERP study area grid location by area resident anglers in which all species were sought 3,516 times and the total catch was 8,188 fish. Grid numbers 9 and 10 were well above average in total number of trips and in total number of times species were sought. Grid numbers, 1, 2, 9, and 10 were above average in total number of fish caught (Table 5).

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8. APPENDICES

8.1 SURVEY QUESTIONNAIRES AND COVERING LETTERS

8.1.1 Provincial Fishing Questionnaire and Covering Letters

alberta canada
ALBERTA OIL SANDS
ENVIRONMENTAL RESEARCH PROGRAM

403/427-3943

Penthouse Jarvis Building,
9925 - 107 Street
Edmonton, Alberta, Canada.
T5K 2H9

Dear Sportsman:

The Alberta Oil Sands Environmental Research Program (AOSERP) was begun in 1975 by the Governments of Alberta and Canada, with the goal of directing, coordinating, funding, and supervising research into the environmental effects of Athabasca oil sands development.

As part of this research effort, AOSERP is conducting a series of surveys and interviews in Alberta to determine the extent of recreational activities related to fish and wildlife resources. The information collected will contribute to a greater understanding and more effective management of fish and wildlife resources throughout Alberta, and especially in the Athabasca Oil Sands Area.

We request your cooperation in completing, as best you can, the enclosed questionnaire. Your answers will be combined with those of other respondents so as to ensure that your individual response will be held in strict confidence.

We hope you share our objectives in making fish and wildlife management programs more responsive to the needs of present and future Albertans. Your anticipated cooperation and assistance is greatly appreciated.

Yours truly,

Dave Neave
Dave Neave
Chairman, Terrestrial
Fauna Committee

Ron Wallace
Ron Wallace
Chairman, Aquatic
Fauna Committee

Sponsored jointly by
Alberta Environment
Environment Canada
Environnement Canada

403 / 427-3943

Penthouse Jarvis Building,
9925 - 107 Street
Edmonton, Alberta, Canada.
T5K 2H9

ALBERTA OIL SANDS
ENVIRONMENTAL RESEARCH PROGRAM

Dear Sportsman:

Several weeks ago you were mailed a copy of the enclosed questionnaire and covering letter. If you have completed and returned the original questionnaire, please disregard the enclosed. We appreciate your assistance. If for some reason you have not completed and returned the questionnaire, we would be grateful if you would take a few minutes and complete the enclosed. We are anxious to receive as many returns as possible in order to ensure the success of this project.

Thanking you in advance.

Yours truly,

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Fauna Committee.

Ron Wallace
Chairman, Aquatic
Fauna Committee.

Sponsored jointly by

Alberta Environment

Environment Canada

Environnement Canada

CONFIDENTIAL

Nº 11971

ALBERTA FISHING SURVEY 1975-76 FISHING SEASON

1. Residence (city or town) _____ 2. Age _____

3. Sex Male ☐ 4. Occupation _____
Female ☐

5. Including yourself, how many of your immediate family are living at your residence? (Please circle the appropriate number).

1 2 3 4 5 6 7 8 9

6. Approximately what was the total amount of money earned by you and your family in 1975? Estimate and check one.

Less than $5,000 ☐	$20,001 - $25,000 ☐
$ 5,001 - 10,000 ☐	$25,001 - 30,000 ☐
$10,001 - 15,000 ☐	$30,001 - 35,000 ☐
$15,001 - 20,000 ☐	$35,001 or over ☐

7. Education: (please circle highest year completed).

Grade School	0	1	2	3	4	5	6	7	8	9
High School	10	11	12							
University	1	2	3	4	5	6	7	8	9	
Technical School	1	2	3	4						

8. Please respond to each question below by checking the appropriate answer.

	Yes	No
(a) Have you ever fished for sport before the 1975-76 season? (April 1975 - March 1976).	☐	☐
(b) Have you ever fished for sport in Alberta before the 1975-76 season?	☐	☐
(c) Have you ever fished for sport in the Athabasca Oil Sands Area before the 1975-76 season? (see the map attached for a description of this area).	☐	☐

9. Did you fish for sport AT LEAST ONCE during the 1975-76 fishing season in Alberta? (includes ice fishing).

YES ☐ IF "YES" PLEASE COMPLETE ALL THE QUESTIONS THAT FOLLOW.

NO ☐ IF "NO" PLEASE RETURN THIS QUESTIONNAIRE IN THE SELF-ADDRESSED ENVELOPE THAT HAS BEEN PROVIDED.

10. If you made any major purchases in Alberta in 1975 that are used in whole or in part for fishing in Alberta please list the item(s) purchased, the purchase price and the extent to which this item is used for fishing in Alberta.

ITEM	PURCHASE PRICE $	AMOUNT OF USE FOR ALBERTA FISHING 100%	75%	50%	25%	0%
e.g. boat motor	1,150		✓			

11. If you DID fish in Alberta during the 1975-76 season, please complete the following information for each fishing trip taken (includes ice fishing). (NOTE: 1 FULL day of fishing is 4 or more hours spent in the activity).

Areas Fished: (please list nearest town or landmark)	Total No. Days Fished in Area (Estimate to nearest 1/2 day)	No. Trips Taken to Area	Usual No. in Fishing Party	Miles to Area	What were You Fishing For?	Approx. number You caught of each species
e.g. Cold Lake	2 1/2	2	2	100	trout	20
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

12. Based on your experience, how would you rate your fishing trips in Alberta during the 1975-76 season? (check one).

Very Good ☐ Good ☐ Fair ☐ Poor ☐ Very Poor ☐

13. Please estimate as best you can the amount of money you personally spent for sport fishing purposes in Alberta during the 1975-76 fishing season. Please estimate for each category below as it applies to you.

TRAVEL COSTS (includes gasoline, oil, air fare, etc.) $ _____

LODGING (includes hotels, motels, camping fees, etc.) $ _____

FOOD (includes restaurant meals & food purchased for fishing trips, etc.) $ _____

BEVERAGES $ _____

RENTALS (includes rental of boats, motors and other equipment, etc.) $ _____

FISHING SERVICES (includes guiding fees, packers fees, etc.) $ _____

FISHING GEAR (includes tackle, bait, flies, etc.) $ _____

OTHER (please specify) _____ $ _____

_____ $ _____

14. Approximately how much do you think a day's fishing in Alberta is worth to you, in dollars per day, above what you spend on travel and other expenses? (circle the appropriate dollar value).

$ 0 1 2 3 4 5 6 7 8 9 10

$ 12 14 16 18 20 22 24 26 28 30

If higher or other dollar value please specify. $ _____

15. Approximately how much money would you have to be paid NOT to fish in Alberta FOR ONE YEAR (Estimate and circle the least amount acceptable to you).

$	0	1	2	3	4	5	6	7	8	9
$		10	20	30	40	50	60	70	80	90
$		100	200	300	400	500	600	700	800	900

If higher or other dollar value please specify $ _____

16. Give any additional comments that might help to evaluate the sport fishing in Alberta.

_____

_____

17. Of the fishing trips you took during the 1975-76 season, were any of them to the Athabasca Oil Sands Area? (see the map attached for a description of this area).

YES ☐ IF "YES" PLEASE COMPLETE ALL THE QUESTIONS THAT FOLLOW.

NO ☐ IF "NO" PLEASE RETURN THIS QUESTIONNAIRE IN THE SELF-ADDRESSED ENVELOPE THAT HAS BEEN PROVIDED.

18. Please indicate with X's on the map attached the areas you fished during the 1975-76 season in the Athabasca Oil Sands Area. Please be as accurate as possible.

19. How would you rate the fishing trips to the Athabasca Oil Sands Area compared to your other fishing trips in Alberta as a whole? (check one).

Better than ☐ as good as ☐ worse than ☐

20. Approximately how much do you think a day's fishing in the Athabasca Oil Sands Area is worth to you in dollars per day, above what you spend on travel and other expenses? (circle the appropriate dollar value.)

$	0	1	2	3	4	5	6	7	8	9	10
$		12	14	16	18	20	22	24	26	28	30

If higher or other dollar value please specify $ _____

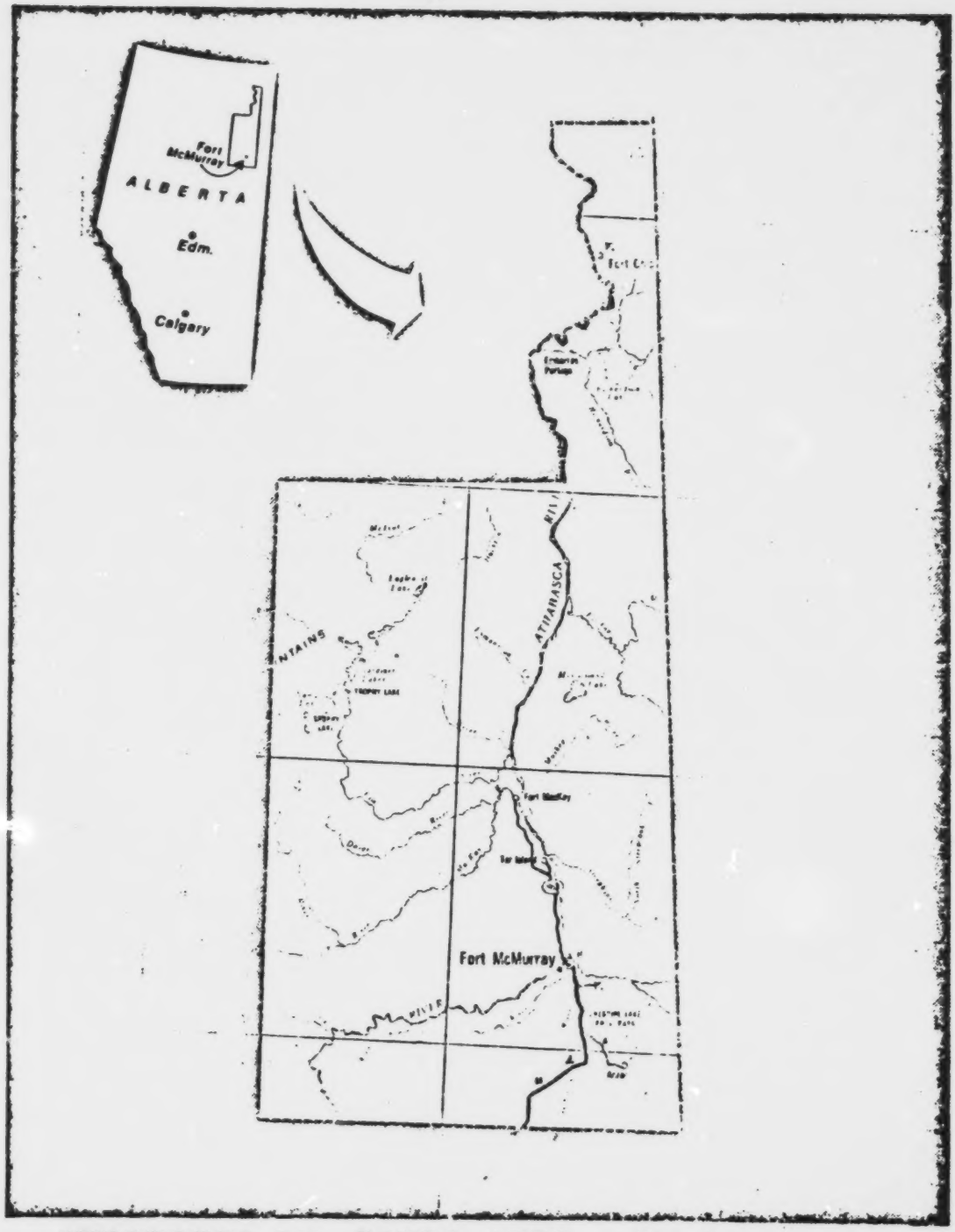
21. Provide any additional comments that might help evaluate the sport fishing in the Athabasca Oil Sands Area.

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR CO-OPERATION IN ANSWERING AND RETURNING THIS QUESTIONNAIRE.



ATHABASCA OIL SANDS AREA

alberta canada

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

8.1.2 AOSERP Study Area Fishing Questionnaire and Covering Letters

(403) 427-3943

Penthouse Jarvis Building,
9925 - 107 Street
Edmonton, Alberta, Canada.
T5K 2H9

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Fauna Committee

Ron Wallace
Chairman, Aquatic
Fauna Committee

Sponsored jointly by

Alberta ENVIRONMENT

Environment Canada

Environnement Canada

alberta canada

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ENVIRONMENTAL RESEARCH PROGRAM

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Fauna Committee.

Ron Wallace
Chairman, Aquatic
Fauna Committee.

Sponsored jointly by

Alberta Environment

Environment Canada

Environnement Canada

CONFIDENTIAL

N° 22119

SPORTS FISHING SURVEY - 1975-76 FISHING SEASON

1. Residence (city or town) _____ 2. Age _____

3. Sex Male ☐ Female ☐ 4. Occupation _____

5. Including yourself, how many of your immediate family are living at your residence? (Please circle the appropriate number)

1 2 3 4 5 6 7 8 9

6. Approximately what was the total amount of money earned by you and your family in 1975? Estimate and check one.

Less than $5,000 ☐	$20,001 - 25,000 ☐
$ 5,001 - 10,000 ☐	$25,001 - 30,000 ☐
$10,001 - 15,000 ☐	$30,001 - 35,000 ☐
$15,001 - 20,000 ☐	$35,001 - or over ☐

7. Education: (please circle highest year completed).

Grade School	0 1 2 3 4 5 6 7 8 9
High School	10 11 12
University	1 2 3 4 5 6 7 8 9
Technical School	1 2 3 4

8. Please respond to each question below by checking the appropriate answers.

	Yes	No
(a) Did you fish AT LEAST ONCE during the 1975-76 season in Alberta? (April 1975 - March 1976)	☐	☐
(b) Have you ever fished for sport before the 1975-76 season?	☐	☐
(c) Have you ever fished for sport in Alberta before the 1975-76 season?	☐	☐
(d) Have you ever fished for sport in the Athabasca Oil Sands Area before the 1975-76 season (see the map attached for a description of this area)?	☐	☐

9. Did you fish in the Athabasca Oil Sands Area during the 1975-76 season. (see the map attached for a description of this area.)

Yes ☐ IF "YES" PLEASE COMPLETE ALL THE QUESTIONS THAT FOLLOW.

No ☐ IF "NO" PLEASE RETURN THIS QUESTIONNAIRE IN THE SELF-ADDRESSED ENVELOPE THAT HAS BEEN PROVIDED.

10. If you DID fish in the Athabasca Oil Sands Area during the 1975-76 season, please complete the following information for each fishing trip taken (includes ice fishing). (NOTE: 1 FULL day of fishing is 4 hours or more spent in the activity.)

Trip No. For Areas Fished: (please list nearest town or landmark)	Total No. Days Fished in Area (Estimate to nearest 1/2 day)	No. Trips Taken to Area	Usual No. in Fishing Party	Miles to Area	What were You Fishing For?	Approx. number You caught of each species
e.g. Namur Lake	2 1/2	2	2	70	Pike	20
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

11. Please indicate, by placing the trip number on the map attached, the areas you fished in the Athabasca Oil Sands Area during the 1975-76 season. Please carry out this procedure for every trip you listed in the table above.

12. Based on your experience, how would you rate your fishing trips in the Athabasca Oil Sands Area during the 1975-76 season? (check one).

Very Good ☐ Good ☐ Fair ☐ Poor ☐ Very Poor ☐

13. Approximately how much do you think a day's fishing in the Athabasca Oil Sands Area is worth to you, in dollars per day, above what you spend on travel and other expenses? (circle the appropriate dollar value).

$	0	1	2	3	4	5	6	7	8	9	10
$		12	14	16	18	20	22	24	26	28	30

If other dollar value, please specify. $ _____

14. Provide any additional comments that might help to evaluate the sport fishing in the Athabasca Oil Sands Area.

_____

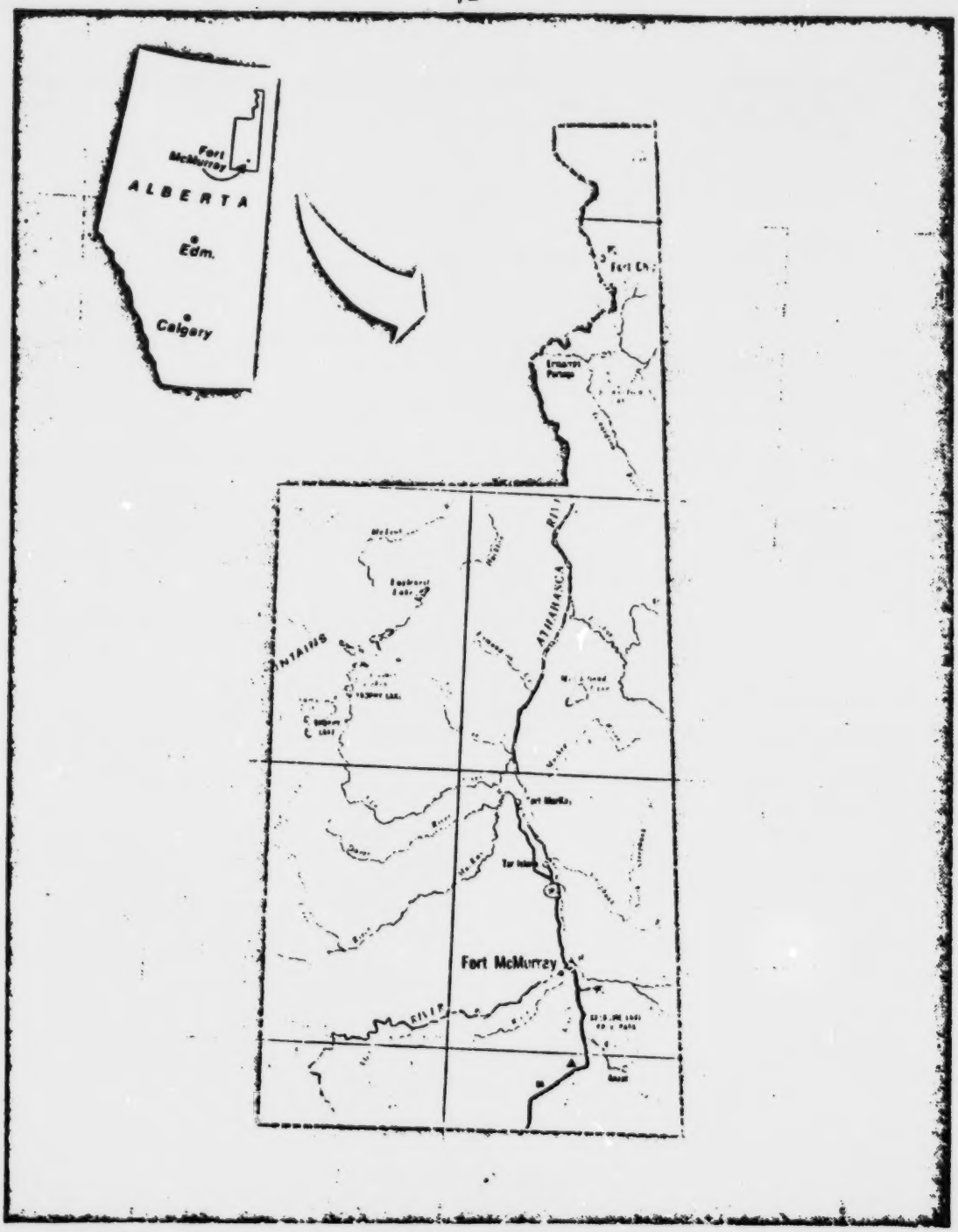
_____

_____

THANK YOU VERY MUCH FOR YOUR

CO-OPERATION IN ANSWERING AND RETURNING

THIS QUESTIONNAIRE



ATHABASCA OIL SANDS AREA

alberta canada

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

8.2 PROVINCIAL FISHING SURVEY

The results of this survey are given in Tables 9 to 46.

Table 9. Residences of provincial fishing survey respondents, 1975-76 season.

Location	Number of Respondents	Percent of Total Response
No Answer	17	3.1
Acme	1	0.2
Airdrie	1	0.2
Alix	2	0.4
Andrew	2	0.4
Athabasca	1	0.2
Barrhead	5	0.9
Beaumont	1	0.2
Beaverlodge	2	0.4
Bellevue	3	0.5
Bentley	1	0.2
Blackfalds	1	0.2
Bonnyville	3	0.5
Breton	1	0.2
Brooks	3	0.5
Busby	1	0.2
Calgary	108	19.6
Camrose	7	1.3
Canmore	2	0.4
Carbon	1	0.2
Carmangay	1	0.2
Cereal	1	0.2
Cherry Grove	1	0.2
Chipman	1	0.2
Claresholm	2	0.4
Cochrane	1	0.2
Cold Lake	3	0.5
Coleman	2	0.4
Dapp	1	0.2
Delburne	1	0.2
Derwent	2	0.4
Devon	1	0.2
Didsbury	1	0.2
Donalda	1	0.2
Drayton Valley	4	0.7
Drumheller	4	0.7
Duchess	1	0.2
Eckville	1	0.2
Edberg	1	0.2
Edmonton	149	27.0
Edson	4	0.7
Evansburg	1	0.2
Fairview	3	0.5
Falher	1	0.2
Fawcett	1	0.2
Ferintosh	1	0.2
Foisy	1	0.2
Foremost	2	0.4
Forestburg	3	0.5
Fort McMurray	10	1.8
Fort Saskatchewan	4	0.7
Fort Walsh	1	0.2
Goodfare	1	0.2
Grand Cache	2	0.4
Grand Centre	1	0.2
Grande Prairie	8	1.5

Continued ...

Table 9. Continued.

Location	Number of Respondents	Percent of Total Response
Grassland	1	0.2
Hairy Hill	1	0.2
Hanna	1	0.2
High Level	1	0.2
High Prairie	2	0.4
Hines Creek	1	0.2
Hinton	2	0.4
Holden	1	0.2
Hussar	1	0.2
Hythe	1	0.2
Islay	1	0.2
Killam	1	0.2
Lac La Biche	2	0.4
Lacombe	3	0.5
La Glace	1	0.2
Lamont	2	0.4
Lancaster Park	1	0.2
Leduc	3	0.5
Lethbridge	9	1.6
Lloydminister (Alberta portion)	1	0.2
McLennan	2	0.4
Magrath	1	0.2
Mannville	1	0.2
Mayerthorpe	1	0.2
Medicine Hat	8	1.5
Milk River	1	0.2
Morinville	2	0.4
Namao	1	0.2
Okotoks	1	0.2
Onoway	1	0.2
Peace River	5	0.9
Penhold	1	0.2
Picardville	1	0.2
Picture Butte	2	0.4
Pincher Creek	2	0.4
Plamondon	1	0.2
Ponoka	2	0.4
Provost	1	0.2
Redcliff	4	0.7
Red Deer	12	2.2
Rimbey	1	0.2
Riviere Qui Barre	1	0.2
Rockyford	1	0.2
Rocky Mountain House	5	0.9
Rosemary	2	0.4
St. Albert	8	1.5
St. Paul	3	0.5
Sangudo	1	0.2
Sexsmith	1	0.2
Sherwood Park	7	1.3
Slave Lake	2	0.4
Smoky Lake	1	0.2
Spruce Grove	4	0.7
Stavely	1	0.2
Stettler	2	0.4
Stony Plain	4	0.7
Strome	1	0.2

Continued ...

Table 9. Concluded.

Location	Number of Respondents	Percent of Total Response	Location	Number of Respondents	Percent of Total Response
Suffield	1	0.2	Viking	1	0.2
Sundre	1	0.2	Vilna	1	0.2
Swan Hills	2	0.4	Vulcan	1	0.2
Sylvan Lake	1	0.2	Wainwright	2	0.4
Taber	1	0.2	Waskatenau	1	0.2
Three Hills	1	0.2	Wembley	1	0.2
Tofield	1	0.2	Westlock	5	0.9
Tomahawk	1	0.2	Wetaskiwin	5	0.9
Two Hills	1	0.2	Whitecourt	1	0.2
Valleyview	3	0.5	Youngstown	1	0.2
Vegreville	2	0.4			
			TOTAL	551	100.0

Table 10. Ages of provincial fishing survey respondents, 1975-76 season.

Age	Number of Respondents	Percent of Total Response	Age	Number of Respondents	Percent of Total Response
No Answer	1	0.2	41	7	1.3
16	2	0.4	42	12	2.2
17	9	1.6	43	12	2.2
18	14	2.5	44	8	1.5
19	13	2.4	45	11	2.0
20	17	3.1	46	9	1.6
21	19	3.4	47	9	1.6
22	21	3.8	48	9	1.6
23	16	2.9	49	7	1.3
24	14	2.5	50	14	2.5
25	14	2.5	51	6	1.1
26	19	3.4	52	10	1.8
27	10	1.8	53	10	1.8
28	15	2.7	54	7	1.3
29	19	3.4	55	5	0.9
30	8	1.5	56	11	2.0
31	16	2.9	57	4	0.7
32	18	3.3	58	4	0.7
33	15	2.7	59	3	0.5
34	13	2.4	60	8	1.5
35	17	3.1	61	8	1.5
36	15	2.7	62	4	0.7
37	12	2.2	63	5	0.9
38	13	2.4	64	5	0.9
39	11	2.0	65	3	0.5
40	18	3.3	68	1	0.2
			TOTAL	551	100.0

Mean, 36.27; Median, 34.65; Mode, 22.00; Standard Deviation, 12.99

Table 11. Male-female distribution of provincial fishing survey respondents, 1975-76 season.

Sex	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	13	2.4	Not Applicable
Male	454	82.4	84.0
Female	84	15.2	16.0
TOTAL	551	100.0	100.0

[a]The percentages are calculated with the exclusion of the 13 respondents who gave no answer (551 - 13 = 538).

Table 12. Occupations of provincial fishing survey respondents, 1975-76 season.

Occupation	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
Not Specified	19	3.4	Not Applicable
Professional & Technical	85	15.4	16.0
Managerial	54	9.8	10.2
Contractor	7	1.3	1.3
Farming	38	6.9	7.1
Tradesmen	93	16.9	17.5
Transportation & Communications	11	2.0	2.1
Service Occupations	26	4.7	4.9
Sales	30	5.4	5.6
Operative	35	6.4	6.6
Armed Forces	5	0.9	0.9
Clerical	25	4.5	4.7
Labourers	31	5.6	5.8
Homemaker	39	7.1	7.3
Student	20	3.6	3.8
Retired	11	2.0	2.1
Not in Labour Force	1	0.2	0.2
Miscellaneous	21	3.8	3.9
TOTAL	551	100.0	100.0

[a]The percentages are calculated with the exclusion of respondents who did not indicate their occupations (551 - 19 = 532).

Table 13. Family size of provincial fishing survey respondents, 1975-76 season.

Family size	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	16	2.9	Not Applicable
1	53	9.6	9.9
2	122	22.1	22.8
3	104	18.9	19.5
4	144	26.1	26.9
5	68	12.3	12.7
6	28	5.1	5.2
7	9	1.6	1.7
8	6	1.1	1.1
9	1	0.2	0.2
TOTAL	551	100.0	100.0

Mean[a], 3.36; Mode[a], 4.00; Median[a], 4.00; Standard Deviation[a], 1.53

[a]The calculations are made with the exclusion of the 16 respondents who did not indicate their family size (551 - 16 = 535).

Table 14. Family incomes of provincial fishing survey respondents, 1975-76 season.

Income Class	Number of Respondents	Percent Total Response	Adjusted Percent of Response[a]
No Answer	32	5.8	Not Applicable
Less than $5,000	24	4.4	4.6
$ 5,001 - $10,000	77	14.0	14.8
$10,001 - $15,000	130	23.6	25.1
$15,001 - $20,000	128	23.2	24.7
$20,001 - $25,000	78	14.2	15.0
$25,001 - $30,000	36	6.5	6.9
$30,001 - $35,000	16	2.9	3.1
$35,001 and over[b]	30	5.4	5.8
TOTAL	551	100.0	100.0

Mean[a,b], $17,471; Mode[a,b], $12,500; Median[a,b], $17,500;
Standard Deviation[a,b], $9,481

[a]The calculations are made with the exclusion of the 32 respondents who did not indicate their family income (551 - 32 = 519).

[b]Calculations are made on the assumption that the 30 responses in the $35,001 and over income class are distributed as follows:

$35,001 - $40,000, 12; $45,001 - $50,000, 5; $55,001 - $60,000, 2;
$40,001 - $45,000, 8; $50,001 - $55,000, 3

Midpoints and corresponding frequencies for each income class were utilized in the calculations. These assumptions are such that the calculations provided are estimates of actual sample measures.

Table 15. Years of formal education of provincial fishing survey respondents, 1975-76 season.

Education Category	Number of Years	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]	Cumulative Adjusted Percentage[a]
Not Specified	n.a.	11	2.0	n.a.	n.a.
Grade School	0	1	0.2	0.2	0.2
	1	0	0.0	0.0	0.2
	2	2	0.4	0.4	0.6
	3	0	0.0	0.0	0.6
	4	1	0.2	0.2	0.8
	5	2	0.4	0.4	1.2
	6	5	0.9	0.9	2.1
	7	8	1.5	1.5	3.6
	8	39	7.1	7.2	10.8
	9	44	8.0	8.1	18.9
High School	10	47	8.5	8.7	27.6
	11	49	8.9	9.1	36.7
	12	128	23.2	23.7	60.4
University	1	15	2.7	2.8	63.2
	2	10	1.8	1.8	65.0
	3	9	1.6	1.7	66.7
	4	40	7.3	7.4	74.1
	5	12	2.2	2.2	76.3
	6	9	1.6	1.7	78.0
	7	1	0.2	0.2	78.2
	8	1	0.2	0.2	78.4
	9	4	0.7	0.7	79.1

Continued ...

Table 15. Concluded.

Education Category	Number of Years	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]	Cumulative Adjusted Percentage[a]
Technical	1	33	6.0	6.1	85.2
	2	37	6.7	6.8	92.0
	3	15	2.7	2.8	94.8
	4	28	5.1	5.2	100.0
TOTAL		551	100.0	100.0	

[a]The calculations are made with the exclusion of the 11 respondents who did not indicate their level of education (551 - 11 = 540).

Table 16. Previous fishing experience of provincial fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	2	0.4	n.a.
Fished for Sport Prior to the 1975-76 Season	508	92.2	92.5
Did Not Fish for Sport Prior to the 1975-76 Season	41	7.4	7.5
TOTAL	551	100.0	100.0

[a]The calculations are made with the exclusion of the two respondents who did not indicate whether they fished prior to the 1975-76 season.

Table 17. Previous provincial fishing experience of provincial fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	5	0.9	n.a.
Fished in Alberta Prior to the 1975-76 Season	492	89.3	90.1
Did Not Fish in Alberta Prior to the 1975-76 Season	54	9.8	9.9
TOTAL	551	100.0	100.0

[a]The calculations are made with the exclusion of the five respondents who did not indicate whether they fished in Alberta prior to the 1975-76 season.

Table 18. Fishing experience in the athabasca oil sands area of provincial fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	10	1.8	n.a.
Fished in the Athabasca Oil Sands Area	51	9.3	9.4
Never Fished in the Athabasca Oil Sands Area	490	88.9	90.6
TOTAL	551	100.0	100.0

[a]The calculations are made with the exclusion of the number of respondents who did not indicate whether or not they ever fished in the Athabasca Oil Sands area (551 - 10 = 541).

Table 19. Fishing Experience in Alberta during the 1975-76 season of provincial fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Response
Fished in Alberta at Least Once During the 1975-76 Season	459	83.3
Did Not Fish in Alberta During the 1975-76 Season	92	16.7
TOTAL	551	100.0

Table 20. Rating of fishing experiences by provincial fishing survey respondents, 1975-76 season.

Ratings	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]	Cumulative Adjusted Percent of Response[a]
No Answer	7	1.5	n.a.	n.a.
Very Good	28	6.1	6.2	6.2
Good	113	24.6	25.0	31.2
Fair	162	35.3	35.8	67.0
Poor	103	22.5	22.8	89.8
Very Poor	46	10.0	10.2	100.0
TOTAL	459[b]	100.0	100.0	

[a]The calculations are made with the exclusion of the number of respondents who did not give a rating (459 - 7 = 452).

[b]This figure represents the 551 respondents indicated in the previous tables of Appendix 8.2, less the 92 respondents who did not fish in Alberta during 1975-76 as indicated in Table 19. Consequently, in most of the subsequent tables in Appendix 8.2 the calculations are based on the 459 respondents who actually fished in Alberta during the 1975-76 season.

Table 21. Travel costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Travel Cost[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	15	3.3	n.a.
$ 0	29	6.4	6.5
1	2	0.4	0.4
3	1	0.2	0.2
5	5	1.1	1.1
6	1	0.2	0.2
7	1	0.2	0.2
8	2	0.4	0.4
10	19	4.1	4.3
12	1	0.2	0.2
15	11	2.4	2.5
18	2	0.4	0.4
20	26	5.7	5.9
21	1	0.2	0.2
25	19	4.1	4.3
27	1	0.2	0.2
30	33	7.3	7.4
31	1	0.2	0.2
32	1	0.2	0.2
35	4	0.9	0.9
40	17	3.7	3.8
42	1	0.2	0.2
45	1	0.2	0.2
50	52	11.4	11.7
55	1	0.2	0.2
56	1	0.2	0.2
60	10	2.2	2.3
70	5	1.1	1.1
75	11	2.4	2.5
80	4	0.9	0.9
85	3	0.7	0.7
90	2	0.4	0.4
100	48	10.6	10.8
120	5	1.1	1.1
125	2	0.4	0.4
130	2	0.4	0.4
135	1	0.2	0.2
150	22	4.9	5.0
160	3	0.7	0.7
170	1	0.2	0.2
175	1	0.2	0.2
180	2	0.4	0.4
200	32	7.1	7.2

Continued ...

Table 21. Concluded.

Travel Cost[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
$224	1	0.2	0.2
250	6	1.3	1.3
275	1	0.2	0.2
280	1	0.2	0.2
300	19	4.1	4.3
302	1	0.2	0.2
325	1	0.2	0.2
340	1	0.2	0.2
350	4	0.9	0.9
400	8	1.7	1.8
458	1	0.2	0.2
500	6	1.3	1.3
560	1	0.2	0.2
600	2	0.4	0.4
800	1	0.2	0.2
850	1	0.2	0.2
900	1	0.2	0.2
995	1	0.2	0.2
TOTAL	459	100.0	100.0

Mean[b], $98.25; Mode[b], $50.00; Median[b], $50.00;

Standard Deviation[b], $135.67

[a]Includes gasoline, oil, air fare etc.

[b]The calculations are made with the exclusion of the number of respondents who did not specify their travel costs (459 - 15 = 444).

Table 22. Lodging costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Lodging Cost[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	15	3.3	n.a.
$ 0	259	56.5	58.4
1	2	0.4	0.4
3	8	1.7	1.8
4	1	0.2	0.2
5	13	2.8	3.0
6	4	0.9	0.9
8	4	0.9	0.9
9	1	0.2	0.2
10	24	5.3	5.5
15	9	2.0	2.0
18	1	0.2	0.2
20	27	5.9	6.2
24	2	0.4	0.4
25	9	2.0	2.0
30	15	3.3	3.5
35	1	0.2	0.2
40	4	0.9	0.9
45	2	0.4	0.4
50	21	4.6	4.8
60	5	1.1	1.1
65	1	0.2	0.2
75	2	0.4	0.4
80	1	0.2	0.2
90	1	0.2	0.2
100	11	2.4	2.6
125	1	0.2	0.2
140	1	0.2	0.2
150	4	0.9	0.9
180	1	0.2	0.2
200	5	1.1	1.1
250	1	0.2	0.2
500	2	0.4	0.4
600	1	0.2	0.2
TOTAL	459	100.0	100.0

Mean[b], $18.88; Mode[b], $0.00; Median[b], $0.00;
Standard Deviation[b], $55.42

[a] Includes hotels, motels, camping fees, etc.

[b] The calculations are made with the exclusion of the number of respondents who did not specify their lodging costs (459 - 15 = 444).

Table 23. Food costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Food Cost[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	16	3.5	n.a.
$ 0	64	14.0	14.5
3	1	0.2	0.2
4	1	0.2	0.2
5	16	3.5	3.6
6	1	0.2	0.2
7	1	0.2	0.2
8	3	0.7	0.7
10	32	7.0	7.2
15	10	2.2	2.3
20	46	10.0	10.4
25	13	2.8	2.9
30	21	4.6	4.8
35	2	0.4	0.5
40	17	3.7	3.9
42	1	0.2	0.2
50	64	13.9	14.5
60	12	2.6	2.7
75	5	1.1	1.1
80	4	0.9	0.9
90	3	0.7	0.7
96	1	0.2	0.2
100	51	11.1	11.5
110	1	0.2	0.2
120	5	1.1	1.1
125	2	0.4	0.5
150	21	4.6	4.7
180	1	0.2	0.2
200	19	4.2	4.3
250	5	1.1	1.1
300	6	1.3	1.4
350	2	0.4	0.5
360	1	0.2	0.2
400	4	0.9	0.9
420	1	0.2	0.2
450	1	0.2	0.2
500	3	0.7	0.7
600	1	0.2	0.2
800	1	0.2	0.2
TOTAL	459	100.0	100.0

Continued ...

Table 23. Concluded.

Mean[b], $69.78; Mode[b], $0.00 and $50.00; Median[b], $40.00; Standard Deviation[b], $96.23

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[a]Includes restaurant meals and food purchased for fishing trips.

[b]The calculations are made with the exclusion of the number of respondents who did not specify their lodging costs (459 - 16 = 443).

Table 24. Beverage costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Beverage Cost	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
Not Specified	15	3.3	n.a.
$ 0	166	36.2	37.5
1	4	0.9	0.9
2	9	2.0	2.0
3	1	0.2	0.2
4	4	0.9	0.9
5	32	7.0	7.2
6	1	0.2	0.2
7	1	0.2	0.2
8	2	0.4	0.5
9	1	0.2	0.2
10	45	9.8	10.2
12	4	0.9	0.9
15	8	1.8	1.8
18	1	0.2	0.2
20	48	10.5	10.8
22	1	0.2	0.2
25	15	3.3	3.4
30	12	2.6	2.7
35	2	0.4	0.5
40	11	2.4	2.5
50	30	6.5	6.8
60	3	0.7	0.7
70	1	0.2	0.2
75	1	0.2	0.2
90	1	0.2	0.2
100	22	4.8	5.0
110	1	0.2	0.2
120	1	0.2	0.2
125	1	0.2	0.2
130	1	0.2	0.2
140	1	0.2	0.2
150	3	0.7	0.7
180	1	0.2	0.2
200	5	1.1	1.1
250	1	0.2	0.2
300	1	0.2	0.2
500	2	0.4	0.5
TOTAL	459	100.0	100.0

Continued ...

Table 24. Concluded.

Mean[a], $24.82; Mode[a], $0.00; Median[a], $10.00;

Standard Deviation[a], $53.05

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[a]The calculations are made with the exclusion of the number of respondents who did not specify their beverage costs (459 - 15 = 444).

Table 25. Rental costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Rental Cost[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	15	3.3	n.a.
$ 0	386	84.1	86.9
3	1	0.2	0.2
5	4	0.9	0.9
8	3	0.7	0.7
10	11	2.4	2.5
12	1	0.2	0.2
15	3	0.7	0.7
16	2	0.4	0.5
20	9	2.0	2.0
25	2	0.4	0.5
30	2	0.4	0.5
40	4	0.9	0.9
45	1	0.2	0.2
50	7	1.6	1.6
70	1	0.2	0.2
75	1	0.2	0.2
100	2	0.4	0.5
130	1	0.2	0.2
150	1	0.2	0.2
250	1	0.2	0.2
300	1	0.2	0.2
TOTAL	459	100.0	100.0

Mean[b], $5.10; Mode[b], $0.00; Median[b], $0.00;

Standard Deviation[b], $23.55

[a]Includes rental of boats, motors, and other equipment.

[b]The calculations are made with the exclusion of the number of respondents who did not specify their rental costs (459 - 15 = 444).

Table 26. Fishing service costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Fishing Service Costs[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	15	3.3	n.a.
$ 0	424	92.4	95.5
2	1	0.2	0.2
4	4	0.9	0.9
5	1	0.2	0.2
8	2	0.4	0.5
10	3	0.7	0.7
11	1	0.2	0.2
20	2	0.4	0.5
25	3	0.7	0.7
30	1	0.2	0.2
60	1	0.2	0.2
150	1	0.2	0.2
TOTAL	459	100.0	100.0

Mean[b], $0.98; Mode[b], $0.00; Median[b], $0.00;
Standard Deviation[b], $8.20

[a] Includes guide fees, packers fees, and other similar fees, but excludes license fees.

[b] The calculations are made with the exclusion of the number of respondents who did not specify their service costs (459 - 15 = 444).

Table 27. Fishing gear costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Fishing Gear Costs[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	15	3.3	n.a.
$ 0	81	17.8	18.3
1	1	0.2	0.2
2	4	0.9	0.9
3	2	0.4	0.5
4	2	0.4	0.5
5	20	4.4	4.5
6	3	0.7	0.7
7	1	0.2	0.2
8	3	0.7	0.7
10	40	8.8	9.0
11	1	0.2	0.2
12	1	0.2	0.2
14	1	0.2	0.2
15	16	3.5	3.6
16	1	0.2	0.2
18	1	0.2	0.2
20	59	12.9	13.3
25	29	6.3	6.5
30	23	5.0	5.2
35	7	1.5	1.6
36	1	0.2	0.2
40	11	2.4	2.5
42	1	0.2	0.2
45	2	0.4	0.5
50	45	9.8	10.1
57	1	0.2	0.2
60	12	2.6	2.7
62	1	0.2	0.2
70	2	0.4	0.5
75	13	2.9	2.9
80	3	0.7	0.7
90	2	0.4	0.5
100	24	5.2	5.4
120	1	0.2	0.2
125	1	0.2	0.2
150	15	3.3	3.4
175	2	0.4	0.5
180	1	0.2	0.2

Continued ...

Table 27. Concluded.

Fishing Gear Costs[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
$ 200	5	1.1	1.1
300	1	0.2	0.2
450	1	0.2	0.2
500	2	0.4	0.5
900	1	0.2	0.2
TOTAL	459	100.0	100.0

Mean[b], $40.61; Mode[b], $0.00; Median[b], $20.00;

Standard Deviation[b], $69.71

[a]Includes Hooks, Bait, flies, and other similar types of gear.

[b]The calculations are made with the exclusion of the number or respondents who did not specify their fishing gear costs (459 - 15 = 444).

Table 28. Total variable fishing costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]	Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
Not Specified	15	n.a.	n.a.	$ 45	2	0.5	16.1
$ 0	13	2.9	2.9	49	1	0.2	16.3
1	1	0.2	3.1	50	14	3.2	19.5
5	2	0.5	3.6	51	2	0.5	20.0
7	1	0.2	3.8	52	1	0.2	20.2
8	1	0.2	4.0	54	2	0.5	20.7
9	1	0.2	4.2	55	5	1.2	21.9
10	4	0.9	5.1	56	1	0.2	22.1
14	1	0.2	5.3	60	6	1.4	23.5
15	4	0.9	6.2	61	1	0.2	23.7
17	1	0.2	6.4	62	1	0.2	23.9
18	1	0.2	6.6	63	1	0.2	24.1
20	6	1.4	8.0	65	5	1.2	25.3
22	2	0.5	8.5	68	2	0.5	25.8
23	1	0.2	8.7	70	10	2.2	28.0
24	2	0.5	9.2	71	1	0.2	28.2
25	4	0.9	10.1	73	2	0.5	28.7
27	4	0.9	11.0	75	6	1.4	30.1
30	5	1.2	12.2	80	4	0.9	31.0
33	1	0.2	12.4	83	1	0.2	31.2
35	7	1.6	14.0	85	6	1.4	32.6
37	2	0.5	14.5	90	6	1.4	34.0
38	1	0.2	14.7	95	2	0.5	34.5
40	3	0.7	15.4	96	1	0.2	34.7
43	1	0.2	15.6	100	8	1.8	36.5

Continued ...

Table 28. Continued.

Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
$104	1	0.2	36.7
105	5	1.2	37.9
106	1	0.2	38.1
110	3	0.7	38.8
111	1	0.2	39.0
115	7	1.6	40.6
117	1	0.2	40.8
120	3	0.7	41.5
125	4	0.9	42.4
130	4	0.9	43.3
135	4	0.9	44.2
137	1	0.2	44.4
138	1	0.2	44.6
140	6	1.4	46.0
143	1	0.2	46.2
145	1	0.2	46.4
148	1	0.2	46.6
150	3	0.7	47.3
154	1	0.2	47.5
155	4	0.9	48.4
158	1	0.2	48.6
160	7	1.6	50.2
162	1	0.2	50.4
170	4	0.9	51.3
175	5	1.2	52.5
180	6	1.4	53.9
185	4	0.9	54.8
187	1	0.2	55.0
$190	3	0.7	55.7
195	1	0.2	55.9
196	2	0.5	56.4
200	6	1.4	57.8
205	2	0.5	58.3
210	4	0.9	59.2
211	1	0.2	59.4
220	8	1.8	61.2
222	1	0.2	61.4
225	3	0.7	62.1
230	2	0.5	62.6
235	2	0.5	63.1
238	1	0.2	63.3
239	1	0.2	63.5
240	2	0.5	64.0
243	1	0.2	64.2
245	3	0.7	64.9
248	1	0.2	65.1
250	4	0.9	66.0
255	2	0.5	66.5
260	6	1.4	67.9
265	1	0.2	68.1
270	1	0.2	68.3
275	1	0.2	68.5
277	1	0.2	68.7
278	1	0.2	68.9
280	4	0.9	69.8
285	1	0.2	70.0

Continued ...

Table 28. Continued.

Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
$290	3	0.7	70.7
300	6	1.4	72.1
310	1	0.2	72.3
311	1	0.2	72.5
315	1	0.2	72.7
320	5	1.2	73.9
325	1	0.2	74.1
327	1	0.2	74.3
333	1	0.2	74.5
335	1	0.2	74.7
340	1	0.2	74.9
345	3	0.7	75.6
350	1	0.2	75.8
355	2	0.5	76.3
360	1	0.2	76.5
365	1	0.2	76.7
370	3	0.7	77.4
375	1	0.2	77.6
376	1	0.2	77.8
379	1	0.2	78.0
385	2	0.5	78.5
386	1	0.2	78.7
390	1	0.2	78.9
394	1	0.2	79.1
395	2	0.5	79.6
400	4	0.9	80.5
405	1	0.2	80.7
410	2	0.5	81.2
$415	1	0.2	81.4
435	2	0.5	81.9
440	1	0.2	82.1
445	2	0.5	82.6
450	1	0.2	82.8
455	1	0.2	83.0
470	1	0.2	83.2
475	3	0.7	83.9
480	1	0.2	84.1
485	2	0.5	84.6
500	3	0.7	85.3
510	2	0.5	85.8
520	1	0.2	86.0
530	2	0.5	86.5
535	1	0.2	86.7
540	1	0.2	86.9
545	1	0.2	87.1
550	2	0.5	87.6
555	2	0.5	88.1
575	3	0.7	88.8
580	1	0.2	89.0
585	1	0.2	89.2
600	3	0.7	89.9
605	1	0.2	90.1
610	1	0.2	90.3
620	2	0.5	90.8
640	1	0.2	91.0
650	2	0.5	91.5

Continued ...

Table 28. Concluded.

Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]	Total Variable Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
$655	1	0.2	91.7	$ 925	2	0.5	96.1
670	1	0.2	91.9	940	1	0.2	96.3
675	1	0.2	92.1	950	1	0.2	96.5
680	1	0.2	92.3	1000	2	0.5	97.0
685	1	0.2	92.5	1014	1	0.2	97.2
690	1	0.2	92.7	1025	1	0.2	97.4
700	1	0.2	92.9	1070	1	0.2	97.6
710	1	0.2	23.1	1100	1	0.2	97.8
712	1	0.2	93.3	1136	1	0.2	98.0
725	1	0.2	93.5	1170	1	0.2	98.2
735	1	0.2	93.7	1180	1	0.2	98.4
750	1	0.2	93.9	1500	1	0.2	98.6
780	1	0.2	94.1	1550	1	0.2	98.8
795	1	0.2	94.3	1700	1	0.2	99.0
800	1	0.2	94.5	1758	1	0.2	99.2
805	1	0.2	94.7	1781	1	0.2	99.4
810	1	0.2	94.9	1800	1	0.2	99.6
816	1	0.2	95.1	1825	1	0.2	99.8
920	2	0.5	95.6	2800	1	0.2	100.0
				TOTAL	551	100.0	

Mean[b], $269.01; Mode[b], $50.00; Median[b], $166.00; Standard Deviation[b], $327.91

[a]Includes travel costs, lodging, food, beverages, rentals, fishing services, fishing gear, and other similar costs associated with fishing activities, but excludes costs for capital items which are used for fishing purposes beyond one season.

[b]The calculations are made with the exclusion of the number of respondents who did not specify their total variable fishing costs (459 - 15 = 444).

Table 29. Capital costs per person per season incurred by provincial fishing survey respondents, 1975-76 season.

Capital Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
Not Specified	4	n.a.	n.a.
$ 0	291	64.0	64.0
6	2	0.5	64.5
10	2	0.5	65.0
14	1	0.2	65.2
15	1	0.2	65.4
17	1	0.2	65.6
20	2	0.5	66.1
31	1	0.2	66.3
35	3	0.7	67.0
38	5	1.1	68.1
40	3	0.7	68.8
50	1	0.2	69.0
61	1	0.2	69.2
63	1	0.2	69.4
75	2	0.5	69.9
85	1	0.2	70.1
88	1	0.2	70.3
90	2	0.5	70.8
94	1	0.2	71.0
100	4	0.9	71.9
110	1	0.2	72.1
113	1	0.2	72.3
125	3	0.7	73.0
150	1	0.2	73.2
164	1	0.2	73.4
$165	1	0.2	73.6
188	2	0.5	74.1
200	7	1.5	75.6
244	1	0.2	75.8
250	2	0.5	76.3
270	1	0.2	76.5
300	2	0.5	77.0
310	1	0.2	77.2
329	1	0.2	77.4
340	1	0.2	77.6
350	1	0.2	77.8
375	1	0.2	78.0
400	5	1.1	79.1
430	1	0.2	79.3
450	3	0.7	80.0
458	1	0.2	80.2
478	1	0.2	80.4
488	1	0.2	80.6
500	5	1.1	81.7
533	1	0.2	81.9
550	1	0.2	82.1
600	2	0.5	82.6
663	1	0.2	82.8
675	2	0.5	83.3
700	6	1.3	84.6
705	1	0.2	84.8
713	1	0.2	85.0

Continued ...

Table 29. Continued.

Capital Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
$ 725	2	0.5	85.5
750	1	0.2	85.7
788	1	0.2	85.9
795	1	0.2	86.1
800	1	0.2	86.3
825	2	0.5	86.8
900	4	0.9	87.7
938	1	0.2	87.9
950	1	0.2	88.1
975	1	0.2	88.3
980	1	0.2	88.5
1000	2	0.5	89.0
1050	2	0.5	89.5
1060	1	0.2	89.7
1100	1	0.2	89.9
1238	1	0.2	90.1
1250	2	0.5	90.6
1265	1	0.2	90.8
1300	2	0.5	91.3
1375	1	0.2	91.5
1408	1	0.2	91.7
1425	1	0.2	91.9
1500	2	0.5	92.4
1550	1	0.2	92.6
$ 1575	1	0.2	92.8
1750	1	0.2	93.0
1800	2	0.5	93.5
1875	1	0.2	93.7
1964	1	0.2	93.9
2000	2	0.5	94.4
2100	2	0.5	94.9
2246	1	0.2	95.1
2300	2	0.5	95.6
2450	1	0.2	95.8
2700	1	0.2	96.0
3000	2	0.4	96.4
3200	1	0.2	96.6
4000	1	0.2	96.8
4025	1	0.2	97.0
4200	2	0.4	97.4
4300	1	0.2	97.6
4350	1	0.2	97.8
4500	1	0.2	98.0
6300	1	0.2	98.2
6500	1	0.2	98.4
7000	1	0.2	98.6
7175	1	0.2	98.8
8100	1	0.2	99.0

Continued ...

Table 29. Concluded.

Capital Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]	Capital Cost[a]	Number of Respondents	Percent of Response[b]	Cumulative Percent[b]
$ 9500	1	0.2	99.2	$14000	1	0.2	99.8
9610	1	0.2	99.4	28493	1	0.2	100.0
10070	1	0.2	99.6				
				TOTAL	459	100.0	

Mean[b], $523.74; Mode[b], $0.00; Median[b], $0.00; Standard Deviation[b], $1,925.04

[a]Includes only that portion of 1975-76 season capital purchases which are used for fishing purposes only; e.g., for a vehicle purchased at $5,000 and used 40 percent of the time for fishing purposes, the capital cost indicated in this table would be $2,000 (see Table 30). Other items include fishing equipment, boats, boat accessories, camping equipment, clothing, and other items used for fishing from year to year.

[b]The calculations are made with the exclusion of the number of respondents who did not specify their capital fishing costs (459 - 4 = 455).

Table 30. Itemized capital purchases by provincial survey respondents during the 1975-76 season used in part or in whole for fishing purposes.

Items Purchased	Number of Respondents[a]	Percent of Total Respondents[b]	Items Purchased	Number of Respondents[a]	Percent of Total Respondents[b]
Airplane	1	0.2	Motor Homes	3	0.6
Boats	77	16.8	Rubber Raft	1	0.2
Boat Motors	74	16.1	Reels	31	6.7
Boat Tarp	1	0.2	Rods	35	7.6
Boat Trailers	3	0.6	Snowmobiles	3	0.6
Bait	2	0.4	Tackle	18	3.9
Camera	1	0.2	Tackle Box	1	0.2
Campers	12	2.6	Tents	4	0.9
Camper Trailers	2	0.4	Tent Trailers	6	1.3
Camping Equipment	1	0.2	Trail Bikes	2	0.4
Canoes	14	3.0	Trailers	5	1.1
Fishing Equipment	12	2.6	Travel Trailers	2	0.4
Ice Augers	2	0.4	Trucks	16	3.5
Life Jackets	4	0.9	Truck Canopy	1	0.2

[a]Most respondents who made capital purchases during the 1975-76 fishing season purchased more than one item, thus appearing in the "number of respondents" column more than once. There were in total 551 respondents, 92 of whom did not fish during the season, leaving a total of 459 active fishing respondents, 168 of whom made capital purchases. Four of the 168 purchasers did not specify their purchases or the amounts spent and are therefore excluded. Hence, the items shown in this table represent the purchases of 164 respondents. The proportion of capital purchase expenditures allocated to capital fishing costs are summarized in Table 29.

[b]Percentage figures are based on a total of 459 respondents.

Table 31. Extramarket benefits per person per day received by provincial fishing survey respondents, 1975-76 season.

Extramarket Benefit per Day[a]	Number of Respondents	Percent Total Response	Adjusted Percent of Response[b]
No Answer	45	9.8	n.a.
"Nonsensical Question"	5	1.1	n.a.
Cannot Answer	22	4.8	n.a.
Priceless Benefit	17	3.7	n.a.
$ 0	39	8.5	10.5
1	5	1.1	1.3
2	12	2.6	3.2
3	3	0.6	0.8
4	4	0.9	1.1
5	53	11.5	14.3
6	3	0.7	0.8
7	1	0.2	0.3
8	4	0.9	1.1
9	2	0.4	0.5
10	83	18.1	22.4
12	4	0.9	1.1
14	7	1.5	1.9
15	1	0.2	0.3
16	7	1.5	1.9
18	4	0.9	1.1
20	79	17.2	21.4
24	6	1.3	1.6
25	1	0.2	0.3
26	3	0.7	0.8
28	2	0.4	0.5
30	32	7.0	8.7
35	1	0.2	0.3
40	3	0.7	0.8

Continued ...

Table 31. Concluded.

Extramarket Benefit per Day[a]	Number of Respondents	Percent Total Response	Adjusted Percent of Response[b]
$50	9	2.0	2.4
60	1	0.2	0.3
99	1	0.2	0.3
TOTAL	459	100.0	100.0

Mean[b], $13.99; Mode[b], $10.00; Median[b], $10.00;
Standard Deviation[b], $12.00

[a]Extramarket benefit is the value of a days fishing in Alberta by a respondent, over and above what is spent on travel and other fishing expenses.

[b]Calculations are made with the exclusion of the number of respondents who did not provide dollar amounts of extramarket benefits (459 - 45 - 5 - 22 - 17 = 370).

Table 32. Compensation benefits required to stop fishing per person per year for provincial fishing survey respondents, 1975-76 season.

Compensation Benefits per Year[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
No Answer	59	12.8	n.a.
"Nonsensical Question"	16	3.5	n.a.
Cannot Answer	24	5.2	n.a.
Priceless Benefit	29	6.3	n.a.
$ 0	77	16.8	23.3
1	1	0.2	0.3
2	1	0.2	0.3
5	4	0.9	1.2
10	8	1.7	2.4
20	7	1.5	2.1
30	5	1.1	1.5
50	26	5.7	7.9
60	3	0.7	0.9
90	2	0.4	0.6
100	41	8.9	12.4
150	1	0.2	0.3
200	21	4.6	6.4
300	11	2.4	3.3
350	1	0.2	0.3
400	10	2.2	3.0
500	53	11.5	16.0
600	3	0.7	0.9
700	4	0.9	1.2
800	4	0.9	1.2
900	28	6.1	8.5
1000	7	1.5	2.1
1500	1	0.2	0.3
2000	4	0.9	1.2
2500	1	0.2	0.3
3000	3	0.7	0.9
5000	3	0.7	0.9
9900	1	0.2	0.3
TOTAL	459	100.0	100.0

Continued ...

Table 32. Concluded.

Mean[b], $394.42; Mode[b], $0.00; Median[b], $100.00;

Standard Deviation[b], $824.00

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[a]The amounts shown in this column represent the dollar amount a respondent would have to be paid not to fish in Alberta for one year.

[b]Calculations are made with the exclusion of the number of respondents who did not provide dollar amounts of compensation benefits (459 - 59 - 16 - 24 - 29 = 331).

Table 33. Fishing activities of provincial fishing survey respondents, 1975-76 season.

Item	Mean[a]	Mode	Median	Standard Deviation	Range
Total Days Fished per Person	10.05	2.00	6.79	10.84	0.50 - 81.00
Total Number of Trips per Person	8.89	2.00	5.83	10.13	1.00 - 97.00
Number of Days Fished per Trip per Person	1.13	1.00	1.00	0.83	0.07 - 7.36
Party Size per Trip per Person	2.95	2.00	2.72	1.45	1.00 - 14.27
Total Distance Travelled per Person km(miles)	2,095.88 (1,301.54)	644.12 (400.00)	1,272.14 (790.00)	2,600.47 (1,614.89)	0.00 - 24,170.69 (0.00 - 15,010.00)
Distance Travelled per Trip per Person km(miles)	235.75 (146.40)	322.06 (200.00)	252.32 (156.69)	207.03 (128.57)	0.00 - 1,449.27 (0.00 - 900.00)
Total Number of Fish Caught per Person	35.28	0.00	16.17	53.67	0.00 - 530.00
Number of Fish Caught per Day per Person	3.51	0.00	2.50	4.72	0.00 - 50.00
Number of Fish Caught per Trip per Person	3.97	0.00	2.67	5.84	0.00 - 63.00

[a]Among the 459 respondents who fished during the 1975-76 season, only one did not specify fishing activity information. Consequently, the calculations presented here are based on a sample size of 458 respondents.

Table 34. Fishing activity by subbasin of provincial fishing survey respondents, 1975-76 season.

Sub-basin No.[a]	Number of Respond-ents[b]	Total Days Fished per Person	Total Trips per Person	Days Fished per Trip per Person	Party Size per Trip per Person	Total Distance Travelled per Person		Distance Travelled per Trip per Person		Total Fish Caught per Person
						km	miles	km	miles	
110	1	20.0	10.0	2.0	3.0	3542.7	2200.0	354.3	220.0	0.0
111	1	2.5	1.0	2.5	3.0	563.6	350.0	563.6	350.0	0.0
112	1	2.0	1.0	2.0	1.0	644.1	400.0	644.1	400.0	4.0
220	1	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0
253	1	3.0	1.0	3.0	3.0	805.2	500.0	805.2	500.0	0.0
511	21	6.5	4.3	1.5	3.7	803.1	498.7	186.8	116.0	23.7
512	2	1.5	2.5	0.6	4.0	547.7	340.0	219.0	136.0	1.0
513	14	3.4	2.9	1.2	2.5	590.0	366.4	203.5	126.4	7.1
514	12	2.7	2.7	1.0	3.0	947.2	588.2	350.7	217.8	4.3
515	6	3.7	3.3	1.1	2.5	869.6	540.0	263.4	163.6	5.5
517	8	2.3	3.9	0.6	3.3	479.1	297.5	122.9	76.3	9.5
518	10	11.6	9.7	1.2	2.9	3620.0	2248.0	373.3	231.8	15.0
519	1	2.0	8.0	.3	3.0	463.8	288.0	58.0	36.0	12.0
520	1	20.0	20.0	1.0	2.0	515.3	320.0	25.8	16.0	30.0
521	4	3.8	3.3	1.2	2.5	748.8	465.0	226.9	140.9	4.8
522	8	3.8	2.5	1.5	3.0	982.3	610.0	392.9	244.0	20.6
523	5	2.9	1.8	1.6	2.6	628.0	390.0	348.9	216.7	8.8
524	10	3.5	3.4	1.0	2.7	763.6	474.2	224.6	139.5	9.5
525	18	5.7	3.9	1.5	2.8	837.4	520.0	214.7	133.3	37.7
526	16	3.2	2.6	1.2	2.4	847.8	526.5	326.1	202.5	6.6
528	12	8.3	10.8	0.8	2.1	307.9	191.2	28.5	17.7	6.7
529	11	8.7	10.3	0.8	2.7	359.6	223.3	34.9	21.7	4.7
531	30	3.5	3.0	1.2	2.8	591.3	367.2	197.1	122.4	12.6
532	14	2.4	3.2	0.8	3.1	476.0	295.6	148.8	92.4	6.3

Continued ...

Table 34. Continued.

Sub-basin No.[a]	Number of Respond-ents[b]	Total Days Fished per Person	Total Trips per Person	Days Fished per Trip per Person	Party Size per Trip per Person	Total Distance Travelled per Person		Distance Travelled per Trip per Person		Total Fish Caught per Person
						km	miles	km	miles	
581	10	5.3	2.5	2.1	4.2	1230.3	764.0	492.1	305.6	18.3
611	45	4.9	4.2	1.2	3.2	1779.4	1105.0	423.7	263.1	24.7
612	18	4.9	2.7	1.8	4.2	1305.0	810.4	483.4	300.2	19.1
613	38	4.9	3.9	1.3	3.1	980.0	608.6	251.4	156.1	18.4
616	14	6.3	4.5	1.4	3.4	734.8	456.3	163.3	101.4	12.7
711	10	3.0	2.2	1.4	2.3	1649.0	1024.0	749.6	465.5	8.1
713	9	5.7	3.8	1.5	3.1	1295.3	804.4	340.9	211.7	18.4
714	12	4.5	3.3	1.4	2.5	1723.0	1070.0	522.1	324.2	17.3
716	11	4.1	5.6	0.7	2.6	983.7	610.9	175.7	109.1	37.4
717	14	4.4	5.0	0.9	2.6	876.5	544.3	175.4	108.9	11.1
718	15	4.7	4.3	1.1	3.0	726.7	451.3	169.1	105.0	28.5
720	21	4.2	4.2	1.0	4.8	798.4	495.8	190.2	118.1	21.4
721	4	3.0	1.8	1.7	2.8	653.8	406.0	363.3	225.6	8.0
722	31	4.7	4.0	1.2	2.8	871.5	541.2	217.9	135.3	15.8
723	8	5.4	4.9	1.1	2.5	465.9	289.3	95.0	59.0	13.0
724	2	1.5	2.0	0.8	3.5	853.5	530.0	426.7	265.0	9.0
725	23	6.0	5.6	1.1	2.5	1381.8	858.1	246.7	153.2	24.8
726	3	5.8	3.0	1.9	4.0	2029.0	1260.0	676.3	420.0	14.0
728	1	5.0	5.0	1.0	3.0	354.3	220.0	70.9	44.0	13.0
729	5	2.4	1.4	1.7	3.4	1010.6	627.6	721.9	448.3	11.8
731	32	4.6	2.9	1.6	3.5	1262.8	784.2	435.4	270.4	19.3
732	4	4.4	1.0	4.4	6.8	748.8	465.0	748.8	465.0	2.5
734	9	6.6	3.2	2.1	3.4	1033.2	641.6	322.9	200.5	14.8
735	14	5.3	5.5	1.0	3.5	1365.1	847.7	248.1	154.1	14.3
736	8	2.9	2.1	1.4	2.6	1303.5	809.5	670.8	385.5	18.6

Continued ...

Table 34. Concluded.

Sub-basin No.[a]	Number of Respondents[b]	Total Days Fished per Person	Total Trips per Person	Days Fished per Trip per Person	Party Size per Trip per Person	Total Distance Travelled per Person		Distance Travelled per Trip per Person		Total Fish Caught per Person
						km	miles	km	miles	
738	1	2.0	1.0	2.0	4.0	450.9	280.0	450.9	280.0	10.0
739	1	5.0	2.0	2.5	4.0	1417.1	880.0	708.5	440.0	19.0
740	10	3.3	3.0	1.1	3.1	658.6	409.0	219.5	136.3	9.9
741	10	3.5	2.7	1.3	3.2	695.7	432.0	257.6	160.0	25.3
743	3	2.7	2.7	1.0	3.0	1180.8	733.3	437.3	271.6	4.3
744	2	0.8	1.0	0.8	3.0	64.4	40.0	64.4	40.0	5.0
745	7	3.5	3.1	1.1	2.9	521.7	324.0	168.3	104.5	25.3
746	1	2.0	2.0	1.0	2.0	483.1	300.0	241.5	150.0	10.0
747	9	2.4	1.1	2.2	4.2	406.9	252.7	369.9	229.7	11.4
748	13	6.0	4.5	1.3	2.7	859.7	533.9	191.0	118.6	21.4
751	7	3.5	3.0	1.2	2.7	559.9	347.7	186.6	115.9	5.9
753	2	0.8	1.5	0.5	3.0	982.3	610.0	654.9	406.7	1.5
756	1	2.0	1.0	2.0	4.0	483.1	300.0	483.1	300.0	4.0
757	7	2.3	1.9	1.2	4.1	786.8	488.6	414.0	257.1	12.4
758	3	4.2	1.7	2.5	4.3	1567.3	973.3	921.9	572.5	4.0
760	2	2.5	1.0	2.5	7.0	1623.2	1008.0	1623.2	1008.0	12.5
763	2	5.0	3.0	1.7	3.0	378.4	235.0	126.1	78.3	12.5
764	1	1.0	1.0	1.0	2.0	161.0	100.0	161.0	100.0	2.0
766	1	5.5	6.0	0.9	4.0	2666.7	1656.0	444.4	276.0	35.0
770	1	2.0	2.0	1.0	2.0	12.9	8.0	6.4	4.0	5.0
771	1	1.0	2.0	0.5	2.0	644.1	400.0	322.1	200.0	5.0
772	2	0.5	1.0	0.5	4.5	273.8	170.0	273.8	170.0	1.5
Not Specified	14	4.3	3.1	1.4	3.1	820.1	509.3	264.6	164.3	11.8

[a]Subbasin locations are given in Figure 2.

[b]Each of the 458 respondents, on the average, fished in 2.3 subbasins. See Table 33 for provincial averages.

Table 35. Angler success by species of provincial fishing survey respondents, 1975-76 season.

Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	Percent of Total Catch	Adjusted Percent of Catch[a]	No. of Fish Caught per Trip
Species Unspecified	139	149	0.92	n.a.	1.07
Chub, Unspecified	2	0	0.00	0.00	0.00
Dolly Varden	3	25	0.15	0.16	8.33
Goldeye	59	160	0.99	1.00	2.71
Grayling Arctic	130	522	3.23	3.26	4.02
Perch, Yellow	540	2,500	15.47	15.62	4.63
Pike, Great Northern	1,606	5,035	31.16	31.45	3.14
Sauger	4	20	0.12	0.12	5.00
Trout, Unspecified	1,533	4,658	28.83	29.09	3.04
Trout, Lake	29	98	0.61	0.61	3.38
Trout, Rainbow	31	189	1.17	1.18	6.10
Walleye, Yellow	651	1,553	9.61	9.70	2.39
Whitefish, Unspecified	261	1,250	7.74	7.81	4.79
TOTAL	4,072.00[b]	16,159.00	100.0	100.0	
TOTAL PER PERSON	8.89	35.28			3.97

[a]Calculations are made with the exclusion of the number caught of unspecified species (16,159 - 149 = 16,010).

[b]The actual total of this column is 4,988. However, respondents on 916 trips sought two species while respondents on 3,156 trips sought one species; hence (916 x 2) + 3,156 = 4,988 and 916 + 3,156 = 4,072.

Table 36. Angler success by location and species of provincial fishing survey respondents, 1975-76 season.

Sub-basin[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
111	Trout, unsp.[b]	1	0	0.00
112	Pike	1	4	4.00
511	Chub	2	0	0.00
	Grayling	6	0	0.00
	Trout, unsp.	88	498	5.66
512	Pike	4	0	0.00
	Trout, unsp.	1	2	2.00
513	Species, unsp.	5	3	0.60
	Perch	3	3	1.00
	Pike	24	61	2.54
	Trout, unsp.	10	31	3.10
	Whitefish	1	2	2.00
514	Grayling	1	0	0.00
	Perch	1	6	6.00
	Trout, unsp.	31	46	1.48
515	Trout, unsp.	9	33	3.67
	Whitefish	11	0	0.00
517	Grayling	2	6	3.00
	Pike	24	34	1.42
	Trout, unsp.	7	36	5.14
518	Perch	6	10	1.67
	Pike	28	39	1.39
	Trout, unsp.	69	101	1.46
519	Pike	8	12	1.50
520	Trout, unsp.	20	30	1.50
521	Trout, unsp.	13	19	1.46
522	Trout, unsp.	18	163	9.06
	Trout, Lake	2	2	1.00
523	Grayling	3	30	10.00
	Trout, unsp.	3	11	3.67
	Trout, Lake	3	3	1.00
524	Trout, unsp.	14	7	0.50
	Trout, Lake	20	88	4.40
525	Grayling	2	9	4.50
	Trout, unsp.	29	168	5.79
	Whitefish	42	501	11.93
526	Species, unsp.	6	0	0.00
	Trout, unsp.	35	105	3.00
528	Grayling	5	0	0.00
	Trout, unsp.	117	75	0.64
	Trout, Rainbow	9	2	0.22
	Whitefish	3	3	1.00
529	Pike	80	30	0.38
	Trout, unsp.	32	32	0.69
531	Species, unsp.	1	0	0.00
	Grayling	7	38	5.43
	Trout, unsp.	79	284	3.59
	Whitefish	11	55	5.00

Continued ...

Table 36. Continued.

Sub-basin[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
532	Pike	14	29	2.07
	Trout, unsp.	28	47	1.68
	Trout, Rainbow	3	2	0.67
	Walleye	11	20	1.82
533	Pike	67	164	2.45
	Sauger	4	20	5.00
	Trout, unsp.	7	14	2.00
	Walleye	8	18	2.25
540	Trout, unsp.	24	71	2.96
541	Grayling	10	12	1.20
	Pike	6	60	10.00
	Trout, unsp.	45	162	3.60
	Walleye	1	8	8.00
	Whitefish	4	89	22.25
542	Grayling	10	2	0.20
	Pike	5	12	2.40
	Trout, unsp.	47	40	0.85
	Whitefish	13	25	1.92
543	Species, unsp.	2	9	4.50
	Goldeye	13	48	3.69
	Grayling	2	2	1.00
	Perch	12	100	8.33
	Pike	30	27	0.90
	Trout, unsp.	29	46	1.59
	Walleye	8	5	0.63
	Whitefish	2	25	12.50
544	Goldeye	5	6	1.20
	Pike	75	225	3.00
	Trout, unsp.	6	4	0.67
545	Goldeye	10	25	2.50
	Perch	11	176	16.00
	Pike	16	56	3.50
	Trout, unsp.	28	64	2.29
	Walleye	1	5	5.00
546	Pike	2	3	1.50
	Trout, unsp.	11	20	1.82
547	Goldeye	5	15	3.00
	Pike	11	17	1.55
	Trout, unsp.	4	32	8.00
548	Perch	1	0	0.00
	Pike	4	11	2.75
	Trout, unsp.	8	20	2.50
549	Goldeye	2	5	2.50
	Pike	16	16	1.00
	Trout, unsp.	1	0	0.00
	Walleye	10	5	0.50
552	Pike	2	15	7.50
	Trout, unsp.	10	25	2.50
	Trout, Lake	1	0	0.00
553	Pike	1	0	0.00
	Trout, unsp.	107	430	4.02
	Whitefish	4	73	18.25

Continued ...

Table 36. Continued.

Sub-basin[a]	Number of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
554	Species, unsp.	2	2	1.00
	Goldeye	3	10	3.33
	Pike	17	132	7.76
	Trout, unsp.	4	35	8.75
555	Species, unsp.	21	0	0.00
	Goldeye	6	10	1.67
	Perch	14	112	8.00
	Pike	40	132	3.30
	Trout, unsp.	24	28	1.17
	Walleye	27	45	1.67
	Whitefish	19	62	3.26
556	Goldeye	4	14	3.50
	Trout, unsp.	20	12	0.60
561	Perch	27	53	1.96
	Pike	109	199	1.83
	Trout, unsp.	50	56	1.12
	Walleye	82	106	1.29
562	Species, unsp.	3	2	0.67
	Pike	2	2	1.00
	Trout, unsp.	28	38	1.36
	Walleye	2	2	1.00
563	Perch	11	182	16.55
	Pike	12	30	2.50
	Trout, unsp.	16	100	6.25
	Whitefish	4	14	3.50
564	Species, unsp.	20	56	2.80
	Goldeye	2	0	0.00
	Perch	103	473	4.59
	Pike	105	401	3.82
	Trout, unsp.	1	0	0.00
	Walleye	18	133	7.39
565	Perch	1	0	0.00
	Pike	1	15	15.00
	Trout, unsp.	3	3	1.00
566	Walleye	9	80	8.89
571	Species, unsp.	23	1	0.04
	Perch	34	42	1.24
	Pike	62	131	2.11
	Trout, unsp.	6	21	3.50
	Whitefish	73	172	2.36
572	Perch	5	6	1.20
	Pike	4	14	3.50
	Trout, unsp.	2	40	20.00
	Walleye	1	6	6.00
573	Pike	20	33	1.65
	Trout, unsp.	14	22	1.57
	Walleye	18	20	1.11
581	Trout, unsp.	25	183	7.32

Continued ...

Table 36. Continued.

Sub-basin[a]	Number of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
611	Species, unsp.	3	0	0.00
	Perch	70	284	4.06
	Pike	120	563	4.69
	Trout, unsp.	25	181	7.24
	Walleye	73	84	1.15
	Whitefish	1	0	0.00
612	Perch	10	94	9.40
	Pike	28	168	6.00
	Walleye	23	52	2.26
613	Species, unsp.	2	1	0.50
	Perch	26	265	10.19
	Pike	100	342	3.42
	Trout, Rainbow	1	13	13.00
	Walleye	63	79	1.25
616	Species, unsp.	2	39	19.50
	Pike	45	113	2.51
	Trout, unsp.	47	18	0.38
	Trout, Lake	2	5	2.50
	Walleye	1	3	3.00
711	Trout, unsp.	22	81	3.68
713	Grayling	1	60	60.00
	Pike	15	10	0.67
	Trout, unsp.	16	83	5.19
	Trout, Rainbow	2	10	5.00
	Whitefish	10	3	0.30
714	Dolly Varden	2	5	2.50
	Grayling	5	15	3.00
	Trout, unsp.	34	187	5.50
716	Grayling	2	3	1.50
	Pike	1	1	1.00
	Trout, unsp.	60	237	3.95
	Whitefish	45	170	3.78
717	Species, unsp.	20	0	0.00
	Grayling	10	4	0.40
	Pike	6	54	9.00
	Trout, unsp.	37	72	1.95
	Trout, Rainbow	2	8	4.00
	Whitefish	10	10	1.00
718	Grayling	37	197	5.32
	Perch	20	102	5.10
	Pike	6	16	2.67
	Trout, unsp.	38	95	2.50
	Trout, Rainbow	1	10	10.00
	Whitefish	2	8	4.00
720	Grayling	2	5	2.50
	Pike	61	366	6.00
	Walleye	36	80	2.22
721	Pike	2	11	5.50
	Trout, unsp.	5	21	4.20

Continued ...

Table 36. Continued.

Sub-basin[a]	Number of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
722	Species, unsp.	3	2	0.67
	Grayling	5	30	6.00
	Perch	46	100	2.17
	Pike	69	216	3.13
	Trout, unsp.	16	54	3.38
	Walleye	32	87	2.72
723	Perch	1	0	0.00
	Pike	39	102	2.62
	Walleye	26	2	0.08
724	Pike	3	5	1.67
	Trout, unsp.	4	12	3.00
	Whitefish	1	1	1.00
725	Perch	68	153	2.25
	Pike	72	270	3.75
	Trout, unsp.	10	20	2.00
	Walleye	31	118	3.81
726	Perch	2	0	0.00
	Pike	7	42	6.00
728	Pike	5	10	2.00
	Walleye	5	3	0.60
729	Pike	5	33	6.60
	Trout, unsp.	3	1	0.33
	Walleye	3	25	8.33
731	Species, unsp.	3	1	0.33
	Perch	27	200	7.41
	Pike	47	263	5.60
	Trout, unsp.	1	1	1.00
	Walleye	51	154	3.02
732	Perch	1	5	5.00
	Pike	3	5	1.67
	Walleye	1	0	0.00
734	Species, unsp.	1	30	30.00
	Grayling	11	24	2.18
	Pike	20	60	3.00
	Walleye	14	19	1.36
735	Species, unsp.	8	5	0.63
	Perch	3	18	6.00
	Pike	65	147	2.26
	Trout, unsp.	1	14	14.00
	Walleye	26	16	0.62
736	Goldeye	4	12	3.00
	Grayling	1	70	70.00
	Perch	1	1	1.00
	Pike	4	23	5.75
	Trout, unsp.	1	30	30.00
	Walleye	7	10	1.43
	Whitefish	2	3	1.50
738	Trout, unsp.	1	10	10.00
739	Trout, unsp.	2	12	6.00
	Whitefish	2	7	3.50
740	Pike	2	0	0.00
	Trout, unsp.	22	45	2.05
	Trout, Rainbow	8	52	6.50
	Walleye	2	2	1.00

Continued ...

Table 36. Continued.

Sub-basin[a]	Number of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
741	Dolly Varden	1	20	20.00
	Grayling	2	2	1.00
	Trout, unsp.	24	231	9.63
743	Trout, unsp.	5	1	0.20
	Trout, Rainbow	3	12	4.00
744	Grayling	1	0	0.00
	Trout, unsp.	1	10	10.00
745	Grayling	1	0	0.00
	Perch	1	0	0.00
	Pike	10	40	4.00
	Trout, unsp.	9	57	6.33
	Trout, Rainbow	2	80	40.00
746	Grayling	2	10	5.00
747	Perch	2	30	15.00
	Pike	4	24	6.00
	Walleye	5	29	5.80
	Whitefish	1	20	20.00
748	Grayling	2	4	2.00
	Perch	10	5	0.50
	Pike	28	68	2.43
	Trout, unsp.	1	4	4.00
	Walleye	42	197	4.69
751	Species, unsp.	1	0	0.00
	Perch	5	10	2.00
	Pike	17	30	1.76
	Trout, unsp.	2	0	0.00
	Walleye	1	1	1.00
753	Perch	1	2	2.00
	Trout, unsp.	2	1	0.50
756	Pike	1	4	4.00
757	Species, unsp.	1	0	0.00
	Perch	7	17	2.43
	Pike	2	5	2.50
	Walleye	5	65	13.00
758	Species, unsp.	1	0	0.00
	Pike	1	4	4.00
	Trout, unsp.	2	8	4.00
	Trout, Lake	1	0	0.00
760	Pike	1	4	4.00
	Walleye	2	21	10.50
763	Perch	5	15	3.00
	Walleye	1	10	10.00
764	Perch	1	1	1.00
	Pike	1	1	1.00
766	Pike	6	35	5.83
770	Pike	2	5	2.50
771	Pike	2	5	2.50
772	Species, unsp.	1	0	0.00
	Pike	1	3	3.00
unsp.[b]	Species, unsp.	1	0	0.00
	Goldeye	5	15	3.00
	Perch	10	34	3.40
	Pike	12	81	6.76
	Trout, unsp.	16	23	1.44
	Walleye	3	12	4.00
TOTAL		4072.00[c]	16159.00	
TOTAL PER PERSON		8.89	35.28	3.97

Continued ...

Table 36. Concluded.

[a]Location of subbasins are given in Figure 2.

[b]"Unsp." stands for unspecified.

[c]The actual total of this column is 4988. However, respondents on 916 trips sought two species while respondents on 3156 trips sought one species. Hence, (916 x 2) + 3156 = 4988 and 916 + 3156 = 4072.

Table 37. Comments on provincial fishing provided by provincial fishing survey respondents, 1975-76 season.

Comment[a]			Number of Respondents
Improvements			130
(a)	no specific reasons	(26)	
(b)	pollution problem	(5)	
(c)	improvements in fishing regulations	(2)	
(d)	information on fishing--species & areas	(5)	
(e)	better facilities including campgrounds	(10)	
(f)	better access to lakes and rivers	(9)	
(g)	increase and/or maintain good fish stocking	(29)	
(h)	more wardens and/or better enforcement	(13)	
(i)	better control over boating, including boat uses and speed	(8)	
(j)	better control over commercial fishing	(12)	
(k)	better control over creel limit	(6)	
(l)	more fishing areas	(5)	
Fishing is priceless			23
Fishing is a good recreational activity			20
(a)	for recreational reasons	(5)	
(b)	for relaxation	(6)	
(c)	for outdoor experiences	(5)	
(d)	for family involvement	(4)	
Fishing is a great sport			17
The fishing is poor			11
There are fishing value considerations beyond dollars			11
Fishing is secondary to other activities such as camping and family outings			8
The fishing is excellent			7
The fishing is good			7
Did not fish much during 1975-76 season			6
Lakes should be closed to fishing for longer periods			5
Fishing is deteriorating			4
Fish are a resource that should be taken care of			4
Present facilities, including campgrounds, are good			3

Continued ...

Table 37. Concluded.

Comment[a]	Number of Respondents
Indifferent about involvement in fishing activity	3
Fishing success not important	2
Generally do not fish much	2
Fishing is excellent in poor access areas	2
Miscellaneous Comments[b]	67
TOTAL NUMBER OF COMMENTS[c]	332

[a]Each questionnaire recipient was asked to give any additional comments which might help to evaluate the sport fishing in Alberta.

[b]Includes comments which did not pertain to evaluation of sport fishing in the province or could not be interpreted.

[c]Among the 459 respondents who fished in Alberta during the 1975-76 season, 217 gave no comment, 152 provided one comment, and 90 provided two comments.

Table 38. Significance between first and second mailings on selected variables for provincial fishing survey respondents, 1975-76 season.

Variable	No. of Respondents 1st Mailing	No. of Respondents 2nd Mailing	No. of Respondents Not Specified[a]	Chi Square	Degrees of Freedom	Percent Signif-icance[b]
Family Size	299	236	16	9.236	8	32.28
Family Income	289	230	32	9.889	7	19.50
Whether or Not Fished in Alberta Prior to 1975-76 Season	305	244	2	2.974	1	8.46
Whether or Not Fished At Least Once During the 1975-76 Season	306	245	0	2.297	1	12.97
Number of Fishing Trips Taken During the 1975-76 Season	254	196	9	31.534	34	58.90
Rating of Fishing Experience in Alberta, 1975-76 Season	256	196	7	4.551	4	33.65
Extramarket Benefits	192	139	128	19.880	25	75.31

[a]The first four variables are based on a total of 551 responses. The last three variables are based on a total of 459 since 92 of the 551 respondents did not fish during the 1975-76 season.

[b]Since the percentages for the variables are all greater than the 5.00 percent level of significance, there is no evidence of differences between first and second mailings.

Table 39. Fishing experience in the AOSERP study area during the 1975-76 season of provincial fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses
Fished in the AOSERP Study Area at Least Once during the 1975-76 Season	23	5.0
Did Not fish in the AOSERP Study Area during the 1975-76 Season	436	95.0
TOTAL	459	100.0

Table 40. Rating of fishing experiences in the AOSERP study area in relation to province-wide fishing experience by provincial fishing survey respondents, 1975-76 season.

Ratings	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]	Cumulative Adjusted Percent of Responses[a]
No Answer	2	8.7	n.a.	n.a.
Study area Fishing Better Than Province as a Whole	4	17.4	19.0	19.0
Study area As Good As Province as a Whole	11	47.8	52.4	71.4
Study area Fishing Worse Than Province as a Whole	6	26.1	28.6	100.0
TOTAL	23	100.0	100.0	

[a]The calculations are made with the exclusion of the number of respondents who did not give a rating (23 - 2 = 21).

Table 41. Fishing costs of provincial fishing survey respondents who resided in the AOSERP study area during the 1975-76 season.

Item[a]	Mean[b]	Standard Deviation[b]	Range[a]
Travel Costs	$ 76.67	$140.88	$0.00 - $500.00
Lodging	7.50	17.65	0.00 - 60.00
Food	24.58	34.08	0.00 - 100.00
Beverages	26.83	56.86	0.00 - 200.00
Rentals	0.83	2.89	0.00 - 10.00
Fishing Services	0.00	0.00	0.00 - 0.00
Fishing Gear	39.58	45.55	0.00 - 150.00
TOTAL VARIABLE COSTS	176.00	219.72	0.00 - 810.00
CAPITAL PURCHASES	445.33	1,172.95	0.00 -4,300.00

[a]See Tables 21 through 30 for provincial costs on these items.

[b]Calcualtions are based on the 12 provincial respondents who lived in the AOSERP study area. These 12 respondents are a subsample of the 23 provincial respondents who fished in the area during the 1975-76 season (See Tables 39-45).

Table 42. Extramarket benefits per person per day for fishing in the AOSERP study area by provincial fishing survey respondents, 1975-76 season.

Extramarket Benefit per Day[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
Not Specified	3	13.0	n.a.
Priceless	1	4.3	n.a.
$ 0	7	30.4	36.8
1	1	4.3	5.2
10	2	8.7	10.5
12	1	4.4	5.3
20	2	8.7	10.5
30	3	13.0	15.8
50	1	4.4	5.3
75	1	4.4	5.3
150	1	4.4	5.3
TOTAL	23	100.0	100.0

Mean[b], $23.05; Mode[b], $0.00; Median[b], $10.00;
Standard Deviation[b], $35.81.

[a]Extramarket benefit is the value of a days fishing in the AOSERP study area by a respondent, over and above what is spent on travel and other fishing expenses.

[b]The calculations are made with the exclusion of the number of respondents who did not give a quantitative answer (23 - 3 - 1 = 19).

Table 43. Days fished, number of trips, and party size for provincial fishing survey respondents active in the AOSERP study area during the 1975-76 season.

No.	Residence	Total No. of Days Fished in AOSERP Study Area	Percent of Total Alberta Fishing Days Spent in AOSERP Study Area	No. of Trips Taken to or Within AOSERP Study Area	Ave. No. of Days Fished per Trip in AOSERP Study Area	Ave. Fishing Party Size per Trip Taken to or Within AOSERP Study Area
1.	Dapp[a]	1.0	1.7	2	0.5	1.0
2.	Edmonton[a]	1.0	100.0	1	1.0	8.0
3.	Fort McMurray	18.0	100.0	18	1.0	2.0
4.	Fort McMurray	3.0	100.0	5	0.6	2.0
5.	Westlock[a]	5.0	100.0	5	1.0	3.0
6.	Fort McMurray	6.0	100.0	12	0.5	4.0
7.	Fort McMurray	4.0	80.0	6	0.7	3.0
8.	Fort McMurray	4.0	100.0	10	0.4	4.0
9	Fort McMurray	14.0	100.0	6	2.3	4.0
10.	Fort McMurray	9.0	100.0	9	1.0	2.0
11.	Fort McMurray	7.5	100.0	10	0.8	2.1
12.	Fort McMurray	2.5	100.0	5	0.5	2.0
13.	Edmonton	3.0	26.1	3	1.0	4.0
14.	Edmonton	1.0	4.0	1	1.0	6.0
15.	Edmonton	5.0	25.0	5	1.0	4.0

Continued ...

Table 43. Concluded.

No.	Residence	Total No. of Days Fished in AOSERP Study Area	Percent of Total Alberta Fishing Days Spent in AOSERP Study Area	No. of Trips Taken to or Within AOSERP Study Area	Ave. No. of Days Fished per Trip in AOSERP Study Area	Ave. Fishing Party Size per Trip Taken to or Within AOSERP Study Area
16.	Spruce Grove	1.0	5.9	1	1.0	1.0
17.	Edmonton	1.0	10.0	1	1.0	2.0
18.	Edmonton	7.0	25.0	1	7.0	4.0
19.	Edson	4.0	44.4	1	4.0	3.0
20.	Breton	2.0	66.7	2	1.0	2.0
21.	Calgary	3.0	42.9	1	3.0	2.0
22.	Grand Cache	46.0	56.8	3	15.3	12.0
23.	Hairy Hill	4.0	40.0	1	4.0	6.0
	TOTAL	152.0		109.0		
	Mean	6.6	62.1	4.7	1.4	3.2
	Standard Deviation	9.3		4.3		

[a]Respondent is employed in Fort McMurray but resides elsewhere.

Table 44. Distance travelled and fish caught by provincial fishing survey respondents active in the AOSERP study area during the 1975-76 season.

No.[a]	Residence	Total Distance Travelled on Trips Taken to or Within AOSERP Study Area		Ave. Distance per Trip Taken to or Within AOSERP Study Area		Total No. of Fish Caught in AOSERP Study Area	Ave. No. of Fish Caught per Day in AOSERP Study Area	Ave. No. of Fish Caught per Trip in AOSERP Study Area
		km	miles	km	miles			
1.	Dapp[b]	38.6	24	19.3	12	4	4.0	2.0
2.	Edmonton[b]	32.2	20	32.2	20	5	5.0	5.0
3.	Fort McMurray	247.1	464	41.9	26	36	2.0	2.0
4.	Fort McMurray	241.5	150	48.3	30	5	1.7	1.0
5.	Westlock[b]	257.6	160	51.5	32	3	0.6	0.6
6.	Fort McMurray	772.9	480	64.4	40	10	1.7	0.8
7.	Fort McMurray	386.5	240	64.4	40	30	7.5	5.0
8.	Fort McMurray	805.1	500	80.5	50	50	12.5	5.0
9.	Fort McMurray	483.1	300	80.5	50	10	0.7	1.7
10.	Fort McMurray	821.3	510	91.8	57	38	4.2	4.2
11.	Fort McMurray	966.2	600	96.6	60	23	3.1	2.3
12.	Fort McMurray	483.1	300	96.6	60	12	4.8	2.4
13.	Edmonton	2608.7	1620	869.6	540	18	6.0	6.0
14.	Edmonton	901.8	560	901.8	560	14	14.0	14.0
15.	Edmonton	4508.8	2800	901.8	560	10	2.0	2.0

Continued ...

Table 44. Concluded.

No.[a]	Residence	Total Distance Travelled on Trips Taken to or Within AOSERP Study Area		Ave. Distance per Trip Taken to or Within AOSERP Study Area		Total No. of Fish Caught in AOSERP Study Area	Ave. No. of Fish Caught per Day in AOSERP Study Area	Ave. No. of Fish Caught per Trip in AOSERP Study Area
		km	miles	km	miles			
16.	Spruce Grove	966.2	600	966.2	600	0	0.0	0.0
17.	Edmonton	1062.8	660	1062.8	660	0	0.0	0.0
18.	Edmonton	1127.2	700	1127.2	700	100	14.3	100.0
19.	Edson	1207.7	750	1207.7	750	30	7.5	30.0
20.	Breton	2898.6	1800	1449.3	900	11	5.5	5.5
21.	Calgary	1610.3	1000	1610.3	1000	30	10.0	30.0
22.	Grand Cache	6602.3	4100	2201.3	1367	0	0.0	0.0
23.	Hairy Hill	3214.2	1996	3214.2	1996	20	5.0	20.0
	TOTAL	32743.9	20334			459.0		
	Mean	1423.5	884	301.1	187	20.0	3.0	4.2
	Standard Deviation	1549.1	962			21.7		

[a] Indentifies the same respondent in the previous and subsequent tables.

[b] Respondent is employed in Fort McMurray but resides elsewhere.

Table 45. Location and species sought in the AOSERP study area by provincial fishing survey respondents active in the AOSERP study area during the 1975-76 season.[a]

No.[b]	Residence	Name of Place Fished	Sub-basin[c]	Grid No.[d]	No. of Trips	Species Sought: Name	Species Sought: No. Caught	Species Sought: Name	Species Sought: No. Caught
1.	Dapp[e]	Fort McMurray	734	7	2	Walleye	4		
2.	Edmonton[e]	Fort Chipewyan	760	1	1	Pike	4	Walleye	1
3.	Fort McMurray	Gregoire Lake	735	10	14	Pike	24		
		Athabasca River	736	7	4	Goldeye	12		
4.	Fort McMurray	Gregoire Lake	735	10	5	Pike	5		
5.	Westlock[e]	Gregoire Lake	735	10	5	Fish, Unspecified	3		
6.	Fort McMurray	Gregoire Lake	735	10	12	Pike	10		
7.	Fort McMurray	Fort McMurray	734	10	6	Pike	15	Walleye	15
8.	Fort McMurray	Gregoire Lake	735	10	10	Pike	50	Walleye	0
9.	Fort McMurray	Fort McMurray	734	7	6	Pike	10	Walleye	0
10.	Fort McMurray	Gregoire Lake	735	10	6	Walleye	6	Pike	20
		Hangingstone River	734	10	3	Grayling	12		
11.	Fort McMurray	Hangingstone River	734	9	3	Grayling	5		
		Anzac	735	10	6	Pike	15		
		Gypsy Lake	735	9	1	Pike	3		

Continued ...

Table 45. Continued.

No.[b]	Residence	Name of Place Fished	Sub-basin[c]	Grid No.[d]	No. of Trips	Species Sought Name	Species Sought No. Caught	Species Sought Name	Species Sought No. Caught
12.	Fort McMurray	Fort McMurray	734	10	5	Grayling	7	Pike	5
13.	Edmonton	Gregoire Lake	735	10	3	Perch	18		
14.	Edmonton	Gregoirec ake	735	10	1	Trout	14		
15.	Edmonton	Fort McKay	736	6	5	Walleye	10		
16.	Spruce Grove	Gregoire Lake	735	10	1	Fish, Unspecified	0		
17.	Edmonton	Fort McKay	736	6	1	Pike	0	Walleye	0
18.	Edmonton	Athabasca River	736	7	1	Trout	30	Grayling	70
19.	Edson	Fort McMurray	734	3	1	Fish, Unspecified	30		
20.	Breton	Gregoire Lake	735	10	1	Pike	10		
		Athabasca River	736	7	1	Walleye	0	Perch	1
21.	Calgary	Fort McMurray	734	7	1	Pike	30		
22.	Grand Cache	Fort McMurray	734	7	2	Pike	0		
		Gregoire Lake	735	10	1	Fish, Unspecified	0		
23.	Hairy Hill	Fort Chipewyan	760	1	1	Walleye	20		

Continued ...

Table 45. Concluded.

[a]Four respondents did not specify species sought but caught a total of 33 fish for an average of 8.3 per person.
One respondent sought Goldeye and caught a total of 12 for an average of 12.0 per person.
Four respondents sought Grayling and caught a total of 94 for an average of 23.5 per person.
Two respondents sought Perch and caught a total of 19 for an average of 9.5 per person.
Fourteen respondents sought Pike and caught a total of 201 for an average of 14.4 per person.
Two respondents sought Trout and caught a total of 44 for an average of 22.0 per person.
Ten respondents sought Walleye and caught a total of 56 for an average of 5.6 per person.

[b]Identifies the same respondent in the previous two tables.

[c]Subbasins are shown in Figure 2.

[d]Grids are shown in Figure 3.

[e]Respondent is employed in Fort McMurray but resides elsewhere.

Table 46. Comments on AOSERP study area fishing provided by provincial fishing survey respondents, 1975-76 season.

Comment	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Comment	430	91.7	n.a.
Trip to Fort Chipewyan best ever for both scenery & catch	1	0.2	2.6
Fished there in past years	1	0.2	2.6
Have always wanted to go	3	0.7	7.7
Plan on going in 1976-77	2	0.5	5.1
Fishing is poor	3	0.7	7.7
Don't care if I fish or not	1	0.2	2.6
Dollar value shouldn't be the only consideration	1	0.2	2.6
Fishing important in area as it is one of few possible activities	1	0.2	2.6
More stocking required	2	0.5	5.1
Stock trout	1	0.2	2.6
Stock more beaver dam areas in streams	1	0.2	2.6
Northern Pike too predominant	1	0.2	2.6
Clean some lakes out of rough fish	1	0.2	2.6
Ban net fishing	1	0.2	2.6
Need protection from over fishing at Fort MacKay and Hangingstone where areas are full of nets	1	0.2	2.6

Continued ...

Table 46. Continued.

Comment	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
Both conservation and industry necessary; must resolve future conflicts	1	0.2	2.6
Have not fished there but feel water should not be polluted	2	0.4	5.1
Just moved here and hope area is kept unpolluted	1	0.2	2.6
Do not let GCOS ruin the area	1	0.2	2.6
Because development has brought people in it should be responsible for conserving resources and making them available to all	1	0.2	2.6
Wilderness should be maintained as it is one of Canada's great assets	1	0.2	2.5
Need more access roads to lakes and rivers	5	1.1	12.8
Unfamiliar with area; lack of access and information	1	0.2	2.5
Would like information about area	1	0.2	2.5
Need better camping facilities	1	0.2	2.5
Need more gas stations and phones on roads to area	1	0.2	2.5
Try publicized tournaments in area	1	0.2	2.5
Miscellaneous[b]	1	0.2	2.5
TOTAL	469[c]	100.0	100.0

Continued ...

Table 46. Concluded.

[a]Calculations are made with the exclusion of the 430 respondents who made no comment (469 - 430 = 39).

[b]The comment made did not pertain to fishing in the AOSERP study area.

[c]This total includes 10 respondents, each of whom provided two comments, 19 who provided one comment and 430 who provided no comments. Hence, the total is (10 x 2) + 19 + 430 = 469 from a total number of respondents 10 + 19 + 430 = 459.

8.3 AOSERP STUDY AREA SURVEY

The results of this survey are presented in Tables 47 to 68.

Table 47. Residences of AOSERP study area fishing survey respondents, 1975-76 season.

Location	Number of Respondents	Percent of Total Responses	Location	Number of Respondents	Percent of Total Responses
Not Specified	3	0.7	Jasper	1	0.2
Out of Province[a]	8	1.9	Lac La Biche	1	0.2
Bentley[b]	1	0.2	Leduc	1	0.2
Calgary	3	0.7	Red Deer	1	0.2
Delia	1	0.2	Slave Lake	1	0.2
Edmonton	7	1.6	Stony Plain	2	0.5
Elk Point	1	0.2	Westlock	1	0.2
Foisy	2	0.5	Anzac	1	0.2
Galatini Lake	1	0.2	Fort Chipewyan	14	3.2
High Level	1	0.2	Fort MacKay	1	0.2
Hinton	1	0.2	Fort McMurray	385	88.1
			TOTAL	438	100.0

[a]Respondents now live outside of the province but during the 1975-76 fishing season were employed or resided in the AOSERP study area.

[b]All places listed from Bentley through Westlock are located outside of the AOSERP study area. Respondents now residing in these locations were employed or resided in the AOSERP study area during the 1975-76 season.

Table 48. Age distribution of AOSERP study area fishing survey respondents, 1975-76 season.

Age	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[a]
No Answer	5	1.1	n.a.
13	1	0.2	0.2
15	1	0.2	0.2
17	9	2.1	2.1
18	4	0.9	0.9
19	3	0.7	0.7
20	11	2.5	2.5
21	17	3.9	3.9
22	20	4.6	4.6
23	11	2.5	2.5
24	14	3.2	3.2
25	12	2.7	2.8
26	17	3.9	3.9
27	15	3.4	3.5
28	34	7.8	7.9
29	23	5.2	5.3
30	15	3.4	3.5
31	13	3.0	3.0
32	23	5.2	5.3
33	16	3.7	3.7
34	21	4.8	4.9
35	19	4.3	4.4
36	15	3.4	3.5
37	18	4.1	4.2
38	17	3.9	3.9
39	3	0.7	0.7
40	11	2.5	2.5
41	6	1.4	1.4
42	3	0.7	0.7
43	6	1.4	1.4
44	8	1.8	1.9
45	4	0.9	0.9
46	6	1.4	1.4
47	4	0.9	0.9
48	3	0.7	0.7
49	4	0.9	0.9
50	3	0.7	0.7
51	6	1.4	1.4
52	1	0.2	0.2
53	2	0.5	0.5
54	3	0.7	0.7
55	3	0.7	0.7
56	2	0.5	0.5
57	2	0.5	0.5
58	1	0.2	0.2
59	1	0.2	0.2
61	1	0.2	0.2
62	1	0.2	0.2
TOTAL	438	100.0	100.0

Continued ...

Table 48. Concluded.

Mean[a], 32.76; Mode[a], 28.00; Median[a], 31.00; Standard Deviation[a], 9.20

[a]The calculations are made with the exclusion of the five respondents who did not specify their age (438 - 5 = 433).

Table 49. Male-female distribution of AOSERP study area fishing survey respondents, 1975-76 season.

Sex	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	15	3.4	Not Applicable
Male	330	75.4	78.0
Female	93	21.2	22.0
TOTAL	438	100.0	100.0

[a]The percentages are calculated with the exclusion of the 15 respondents who gave no answer (438 - 15 = 423).

Table 50. Occupations of AOSERP study area fishing survey respondents, 1975-76 season.

Occupations	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
Not Specified	15	3.4	Not Applicable
Professional & Technical	76	17.4	18.0
Managerial	63	14.4	14.9
Contractor	2	0.5	0.5
Farming	0	0.0	0.0
Tradesmen	78	17.8	18.4
Transportation & Communications	11	2.5	2.6
Service Occupations	42	9.6	9.9
Sales	8	1.8	1.9
Operative	33	7.5	7.8
Armed Forces	0	0.0	0.0
Clerical	15	3.4	3.6
Labourers	11	2.5	2.6
Homemaker	52	11.9	12.3
Student	12	2.8	2.8
Retired	1	0.2	0.2
Not In Labour Force	0	0.0	0.0
Miscellaneous	19	4.3	4.5
TOTAL	438	100.0	100.0

[a]The percentages are calculated with the exclusion of respondents who did not indicate their occupations (438 - 15 = 423).

Table 51. Family size of ADSERP study area fishing survey respondents, 1975-76 season.

Family Size	Number of Respondents	Percent of Total Response	Adjusted Percent of Responses[a]
Not Specified	12	2.7	Not Applicable
1	48	11.0	11.3
2	72	16.4	16.9
3	70	16.0	16.4
4	101	23.1	23.7
5	75	17.1	17.6
6	44	10.1	10.4
7	8	1.8	1.9
8	4	0.9	0.9
9	4	0.9	0.9
TOTAL	438	100.0	100.0

Mean[a], 3.68; Mode[a], 4.00; Median[a], 4.00; Standard Deviation[a], 1.70.

[a]The calculations are made with the exclusion of the 12 respondents who did not indicate their family size (438 - 12 = 426).

Table 52. Family income of AOSERP study area fishing survey respondents, 1975-76 season.

Income Class	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	30	6.8	Not Applicable
Less than $5,000	13	3.0	3.2
$ 5,001 - $10,000	17	3.9	4.2
$10,001 - $15,000	57	13.0	14.0
$15,001 - $20,000	104	23.8	25.5
$20,001 - $25,000	97	22.1	23.8
$25,001 - $30,000	43	9.8	10.5
$30,001 - $35,000	34	7.8	8.3
$35,001 and over[b]	43	9.8	10.5
TOTAL	438	100.0	100.0

Mean[a,b], $21,973; Mode[a,b], $17,500; Median[a,b], $22,500; Standard Deviation[a,b], $9,816

[a]The calculations are made with the exclusion of the 30 respondents who did not indicate their family income (438 - 30 = 408).

[b]Calculations are made on the assumption that the 43 responses in the $35,001 and over income class are distributed as follows:

$35,001 - $40,000, 22	$50,001 - $55,000, 3
$40,001 - $45,000, 11	$55,001 - $60,000, 2
$45,001 - $50,000, 5	

Midpoints and corresponding frequencies for each income class were utilized in the calculations. These assumptions are such that the calculations provided are estimates of actual sample measures.

Table 53. Years of formal education of AOSERP study area fishing survey respondents, 1975-76 season.

Education Category	Number of Years	Number of Respondents	Percent of Total Responses	Cumulative Percentage
Grade School	0	8	1.8	1.8
	1	0	0.0	1.8
	2	0	0.0	1.8
	3	1	0.2	2.0
	4	1	0.2	2.2
	5	1	0.2	2.4
	6	3	0.7	3.1
	7	8	1.8	4.9
	8	15	3.4	8.3
	9	27	6.2	14.5
High School	10	43	9.8	24.3
	11	43	9.8	34.1
	12	93	21.2	55.3
University	1	13	3.0	58.3
	2	9	2.1	60.4
	3	10	2.3	62.7
	4	40	9.1	71.8
	5	10	2.3	74.1
	6	9	2.1	76.2
	7	4	0.9	77.1
	8	0	0.0	77.1
	9	0	0.0	77.1
Technical	1	24	5.5	82.6
	2	31	7.1	89.7
	3	18	4.1	93.8
	4	27	6.2	100.0
TOTAL		438	100.0	

Table 54. Previous fishing experience of AOSERP study area fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	2	0.5	n.a.
Fished for Sport Prior to the 1975-76 Season	394	89.9	90.0
Did Not Fish for Sport Prior to the 1975-76 Season	42	9.6	10.0
TOTAL	438	100.0	100.0

[a]The calculations are made with the exclusion of the two respondents who did not indicate whether or not they fished prior to the 1975-76 season.

Table 55. Previous provincial fishing experience of AOSERP study area fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	4	0.9	n.a.
Fished in Alberta Prior to the 1975-76 Season	353	80.6	81.3
Did Not Fish in Alberta Prior to the 1975-76 Season	81	18.5	18.7
TOTAL	438	100.0	100.0

[a]The calculations are made with the exclusion of the four respondents who did not indicate whether they fished in Alberta prior to the 1975-76 season.

Table 56. Previous AOSERP study area fishing experience of AOSERP study area fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	4	0.9	n.a.
Fished in the AOSERP Study Area Prior to the 1975-76 Season	302	69.0	69.6
Did Not Fish in the AOSERP Study Area Prior to the 1975-76 Season	132	30.1	30.4
TOTAL	438	100.0	100.0

[a]The calculations are made with the exclusion of the four respondents who did not indicate whether they fished in the AOSERP study area prior to the 1975-76 season.

Table 57. Fishing experience in Alberta during the 1975-76 season of AOSERP study area fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]
No Answer	1	0.2	n.a.
Fished in Alberta at Least Once During the 1975-76 Season	394	90.0	90.2
Did Not Fish in Alberta During the 1975-76 Season	43	9.8	9.8
TOTAL	438	100.0	100.0

[a]The calculations are made with the exclusion of the one person who did not indicate whether or not he or she fished in Alberta at least once during the 1975-76 season.

Table 58. Fishing experience in the AOSERP study area during the 1975-76 season of AOSERP study area fishing survey respondents, 1975-76 season.

Category	Number of Respondents	Percent of Total Responses
Fished in the AOSERP Study Area at Least Once During the 1975-76 Season	361	82.4
Did Not Fish in the AOSERP Study Area During the 1975-76 Season	77	17.6
TOTAL	438	100.0

Table 59. Rating of fishing experiences by AOSERP study area fishing survey respondents, 1975-76 season.

Ratings	Number of Respondents	Percent of Total Responses	Adjusted Percent of Responses[a]	Cumulative Adjusted Percent of Responses[a]
No Answer	1	0.3	n.a.	n.a.
Very Good	36	10.0	10.0	10.0
Good	99	27.4	27.5	37.5
Fair	130	36.0	36.1	73.6
Poor	57	15.8	15.8	89.4
Very Poor	38	10.5	10.6	100.0
TOTAL	361[b]	100.0	100.0	

[a]The calculations are made with the exclusion of the one respondent who did not give a rating.

[b]This figure represents the 438 respondents indicated in the previous tables of Appendix 8.3, less the 77 respondents who did not fish in the AOSERP study area during 1975-76 as indicated in Table 58. Consequently, in most of the subsequent tables in Appendix 8.3 the calculations are based on the 361 respondents who actually fished in the AOSERP study area during the 1975-76 season.

Table 60. Extramarket benefits per person per day received by AOSERP study area fishing survey repondents, 1975-76 season.

Extramarket Benefit per Day[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
No Answer	36	10.0	n.a.
"Nonsensical Question"	12	3.3	n.a.
Cannot Answer	12	3.3	n.a.
Priceless Benefit	9	2.5	n.a.
$ 0	47	13.0	16.1
1	12	3.3	4.1
2	17	4.7	5.8
3	4	1.1	1.4
4	8	2.2	2.8
5	43	11.9	14.7
6	4	1.1	1.4
7	2	0.5	0.7
8	6	1.7	2.1
10	62	17.2	21.3
12	8	2.2	2.8
14	1	0.3	0.3
16	5	1.4	1.7
18	1	0.3	0.3
20	40	11.1	13.7
22	1	0.3	0.3
24	3	0.8	1.1
25	1	0.3	0.3
26	3	0.8	1.1
30	11	3.0	3.8
33	1	0.3	0.3
40	1	0.3	0.3
50	7	1.9	2.4

Continued ...

Table 60. Concluded.

Extramarket Benefit per Day[a]	Number of Respondents	Percent of Total Response	Adjusted Percent of Response[b]
$ 88	1	0.3	0.3
100	1	0.3	0.3
120	1	0.3	0.3
150	1	0.3	0.3
TOTAL	361	100.0	100.0

Mean[b], $11.74; Mode[b], $10.00; Median[b], $10.00;
Standard Deviation[b], $16.18.

[a]Extramarket benefit is the value of a days fishing by a respondent, over and above what is spent on travel and other fishing expenses.

[b]Calculations are made with the exclusion of the number of respondents who did not provide dollar amounts of extramarket benefits (361 - 36 - 12 - 12 - 9 = 292).

Table 61. Fishing activities of AOSERP study area fishing survey respondents, 1975-76 season.

Item	Mean[a]	Mode	Median	Standard Deviation	Range
Total Days Fished per Person	9.06	4.00	5.05	10.71	0.00 - 77.00
Total No. of Trips per Person	10.47	2.00	6.48	11.21	1.00 - 85.00
No. of Days Fished per Trip per Person	0.98	1.00	1.00	0.75	0.00 - 10.40
Party Size per Trip per Person	2.91	2.00	2.67	1.39	1.00 - 15.00
Total Distance Travelled per Person km(miles)	803.19(498.78)	128.82(80.00)	462.96(287.50)	947.05(588.12)	0.00 - 5,797.10 (0.00 - 3,600.00)
Distance Travelled per Trip per Person km(miles)	76.71 (47.64)	96.61(60.00)	77.28 (47.99)	68.89 (42.78)	0.00 - 644.12 (0.00 - 400.00)
Total No. of Fish Caught per Person	32.72	0.00	12.67	74.41	0.00 - 1,039.00
No. of Fish Caught per Day per Person	3.61	0.00	2.38	8.24	0.00 - 90.00
No. of Fish Caught per Trip per Person	3.13	0.00	2.00	7.88	0.00 - 105.00

[a]Among the 361 respondents who fished during the 1975-76 season, only six did not specify fishing activity information. Consequently, the calculations presented here are based on a sample size of 355 respondents.

Table 62. Fishing activity by subbasin of AOSERP study area fishing survey respondents, 1975-76 season.

Subbasin No.[a]	Number of Respondents[b]	Total Days Fished per Person	Total Trips per Person	Days Fished per Trip per Person	Party Size per Trip per Person	Total Distance Travelled per Person		Distance Travelled per Trip per Person		Total Fish Caught per Person
						km	miles	km	miles	
733	68	3.0	4.2	0.7	2.3	100.5	62.4	24.0	14.9	5.0
734	148	4.5	5.8	0.8	2.6	319.0	198.1	55.1	34.2	13.4
735	260	6.1	7.4	0.8	3.1	605.9	376.3	82.0	50.9	18.6
736	87	4.7	3.9	1.2	3.5	322.9	200.5	82.8	51.4	18.5
737	18	2.3	2.3	1.0	2.7	212.1	131.7	92.3	57.3	5.8
738	20	3.0	1.8	1.7	3.2	470.2	292.0	261.2	162.2	9.1
739	25	3.6	2.6	1.4	2.9	910.3	565.3	350.1	217.4	22.7
750	2	13.5	13.5	1.0	3.0	1,940.4	1,205.0	143.8	89.3	65.0
760	13	9.0	8.9	1.0	3.9	353.3	219.4	39.8	24.7	129.0
770	2	1.5	1.5	1.0	2.5	144.9	90.0	96.6	60.0	22.0
Not Specified	4	3.4	3.8	0.9	1.8	177.1	110.0	46.7	29.0	26.0

[a]Subbasin locations are given in Figure 2.

[b]Each of the 355 respondents, on the average, fished in 1.8 subbasins. See Table 61 for overall averages.

Table 63. Fishing activity by grid number of AOSERP study area fishing survey respondents, 1975-76 season.

Grid No.[a]	Number of Respond-ents	Total Days Fished per Person	Total Trips per Person	Days Fished per Trip per Person	Party Size per Trip per Person	Total Distance Travelled per Person		Distance Travelled per Trip per Person		Total Fish Caught per Person
						km	miles	km	miles	
1	33	7.2	6.5	1.1	3.4	954.1	592.5	146.8	91.2	73.5
2	43	4.9	2.0	2.5	5.0	461.4	286.5	230.8	143.3	28.0
3	1	5.0	4.0	1.3	2.0	334.9	208.0	83.7	52.0	2.0
4	22	3.0	1.9	1.6	3.1	444.6	276.1	233.9	145.3	9.1
5	3	1.5	2.7	0.6	2.3	63.3	39.3	23.5	14.6	2.0
6	31	2.2	2.7	0.8	2.5	248.1	154.1	91.9	57.1	4.6
7	35	4.8	5.8	0.8	2.2	105.8	65.7	18.2	11.3	13.3
8	4	7.8	8.0	1.0	1.8	49.9	31.0	6.3	3.9	7.5
9	150	3.7	4.9	0.8	2.5	231.1	143.5	47.2	29.3	10.8
10	273	6.8	8.5	0.8	3.0	649.2	403.2	76.3	47.4	20.3

[a]Grid number locations for the AOSERP study area are given in Figure 3.

[b]Each of the 355 respondents, on the average, fished in 1.7 grid number locations. See Table 61 for overall averages.

Table 64. Angler success by species of AOSERP study area fishing survey respondents, 1975-76 season.

Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	Percent of Total Catch	Adjusted Percent of Catch[a]	No. of Fish Caught per Trip
Species, Unspecified	155	103	0.89	n.a.	0.66
Goldeye	85	124	1.07	1.08	1.46
Grayling, Arctic	369	1,568	13.50	13.62	4.25
Perch, Yellow	21	429	3.69	3.73	20.43
Pike, Great Northern	2,377	6,023	51.85	52.31	2.53
Splake	26	11	0.09	0.10	0.42
Sucker	1	3	0.03	0.03	3.00
Trout, Unspecified	82	323	2.78	2.81	3.94
Trout, Lake	18	176	1.52	1.53	9.78
Walleye, Yellow	1,849	2,852	24.56	24.77	1.54
Whitefish	4	2	0.02	0.02	0.50
TOTAL	3,717.00[b]	11,614.00	100.00	100.00	
TOTAL PER PERSON	10.47	32.72			3.13

[a]Calculations are made with the exclusion of the number caught of unspecified species (11,614 - 103 = 11,511).

[b]The actual total of this column is 4,987. However, respondents on 1,270 trips sought two species, while respondents on 2,447 trips sought one species; hence (1,270 x 2) + 2,447 = 4,987 and 1,270 + 2,447 = 3,717.

Table 65. Angler success by subbasin and species of AOSERP study area fishing survey respondents, 1975-76 season.

Sub-basin[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
733	Species, unspecified	18	3	0.17
	Goldeye	9	8	0.89
	Grayling	24	34	1.42
	Pike	99	72	0.73
	Walleye	196	226	1.15
734	Species, unspecified	41	13	0.32
	Goldeye	5	9	1.80
	Grayling	271	1,122	4.14
	Pike	282	378	1.34
	Splake	25	7	0.28
	Trout, unspecified	16	6	0.38
	Walleye	456	454	1.00
735	Species, unspecified	50	11	0.22
	Goldeye	5	0	0.00
	Grayling	23	57	2.48
	Perch	6	9	1.50
	Pike	1,727	4,085	2.37
	Splake	1	4	4.00
	Trout, unspecified	1	0	0.00
	Walleye	846	697	0.82
	Whitefish	4	2	0.50
736	Species, unspecified	24	75	3.13
	Goldeye	64	95	1.48
	Grayling	37	250	6.76
	Perch	11	20	1.82
	Pike	121	262	2.17
	Sucker	1	3	3.00
	Trout, unspecified	57	317	5.56
	Trout, Lake	18	176	9.78
	Walleye	152	411	2.70
737	Species, unspecified	7	1	0.14
	Goldeye	2	12	6.00
	Pike	11	42	3.82
	Trout, unspecified	7	0	0.00
	Walleye	29	49	1.69
738	Species, unspecified	4	0	0.00
	Pike	9	43	4.78
	Walleye	28	139	4.96

Continued ...

Table 65. Concluded.

Sub-basin[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
739	Species, unspecified	10	0	0.00
	Grayling	2	5	2.50
	Pike	38	427	11.24
	Walleye	42	135	3.21
750	Pike	2	15	7.50
	Walleye	27	115	4.26
760	Perch	4	400	100.00
	Pike	87	695	7.99
	Walleye	70	582	8.31
770	Pike	1	4	4.00
	Walleye	2	40	20.00
Not Specified	Species, unspecified	1	0	0.00
	Grayling	12	100	8.33
	Trout, unspecified	1	0	0.00
	Walleye	1	4	4.00
TOTAL		3,717.00[b]	11,614.00	
TOTAL PER PERSON		10.47	32.72	3.13

[a]Locations of subbasins are given in Figure 2.

[b]The actual total of this column is 4,987. However, respondents on 1,270 trips sought two species while respondents on 2,447 trips sought one species; hence (1,270 x 2) + 2,447 = 4,987 and 1,270 + 2,447 = 3,717.

Table 66. Angler success by AOSERP study area grid number and species of AOSERP study area fishing survey respondents, 1975-76 season.

Grid No.[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
1	Species, unspecified	10	0	0.00
	Perch	4	400	100.00
	Pike	133	1,153	8.67
	Walleye	146	872	5.97
2	Species, unspecified	10	72	7.20
	Grayling	27	247	9.15
	Pike	12	130	10.83
	Sucker	1	3	3.00
	Trout, unspecified	52	317	6.10
	Trout, Lake	18	176	9.78
	Walleye	12	260	21.67
3	Pike	4	2	0.50
4	Species, unspecified	4	0	0.00
	Grayling	2	5	2.50
	Pike	12	46	3.83
	Walleye	29	149	5.14
5	Pike	7	2	0.29
	Walleye	2	0	0.00
6	Species, unspecified	20	4	0.20
	Goldeye	2	12	6.00
	Grayling	6	2	0.33
	Pike	17	44	2.59
	Trout, unspecified	7	0	0.00
	Walleye	47	80	1.70
7	Species, unspecified	2	1	0.50
	Goldeye	61	95	1.56
	Grayling	15	101	6.73
	Perch	11	20	1.82
	Pike	97	132	1.36
	Trout, unspecified	5	0	0.00
	Walleye	104	117	1.13
8	Grayling	1	0	0.00
	Pike	27	21	0.78
	Splake	25	7	0.28
	Walleye	6	2	0.33

Continued ...

Table 66. Concluded.

Grid No.[a]	Name of Species Sought	Total No. of Trips Taken	Total No. of Fish Caught	No. of Fish Caught per Trip
9	Species, unspecified	41	13	0.32
	Goldeye	13	9	0.69
	Grayling	272	1,082	3.98
	Perch	2	0	0.00
	Pike	190	162	0.85
	Trout, unspecified	2	0	0.00
	Walleye	358	347	0.97
10	Species, unspecified	68	13	0.19
	Goldeye	9	8	0.89
	Grayling	46	131	2.85
	Perch	4	9	2.25
	Pike	1,878	4,331	2.31
	Splake	1	4	4.00
	Trout, unspecified	16	6	0.38
	Walleye	1,145	1,025	0.90
	Whitefish	4	2	0.50
TOTAL		3,717.00[b]	11,614.00	
TOTAL PER PERSON		10.47	32.72	3.13

[a] Grid number locations are given in Figure 3.

[b] The actual total of this column is 4,987. However, respondents on 1,270 trips sought two species while respondents on 2,447 trips sought one species; hence, (1,270 x 2) + 2,447 = 4,987 and 1,270 + 2,447 = 3,717.

Table 67. Comments on fishing provided by AOSERP study area fishing survey respondents, 1975-76 season.

Comment[a]		Number of Respondents
Improvements		155
(a) better access to lakes and rivers	(60)	
(b) better facilities, including campgrounds	(19)	
(c) reduce overcrowding	(18)	
(d) increase and/or maintain good fish stocking	(16)	
(e) pollution problem	(16)	
(f) reduce overfishing	(7)	
(g) conservation of fish and fishing areas	(5)	
(h) no specific reasons	(4)	
(i) more wardens and/or better enforcement	(3)	
(j) better control over boating, including boat uses and speed	(2)	
(k) better control over creel limit	(2)	
(l) information on fishing--species & areas	(2)	
(m) improvements in fishing regulations	(1)	
The fishing is good		17
Fishing is deteriorating		13
Fishing is a good recreational activity		12
(a) for relaxation	(5)	
(b) for family involvement	(4)	
(c) for outdoor experiences	(2)	
(d) for recreational reasons	(1)	
Fly-in fishing expenses make it an elitist activity		9
Fishing is a great sport		8
Fishing is priceless		6
The fishing is poor		6
Jet boats on rivers in spring create waves which disturb eggs		4
The fishing is excellent		2
Trout fishing is poor		2
Northern Pike are too predominant		2
Fish are too small--use barbless hooks		2
Areas north and east of Fort McMurray have great potential		2
Raise water level of Gregoire Lake		2

Continued ...

Table 67. Concluded.

Comment[a]	Number of Respondents
Owning a boat is a great help	2
Success is not important	1
Throw back what is caught	1
Fishing important as it is one of few activities possible in AOSERP study area	1
Not a main food source	1
Fishing is excellent in poor access areas	1
Need more stringent restrictions on some species, i.e., Walleye	1
No Lake in AOSERP study area suitable for stocking	1
Fish and environment less and less important to government in last few years	1
Scenery is beautiful and clean	1
Pollution has not affected fishing	1
Did not fish much this year	1
Government should sell land for cabins along the Athabasca River	1
Clearwater will help fishing as there is no pollution	1
Alberta Oil Sands Environmental Research Program should include Wood Buffalo National Park as environmental effects will be felt there	1
Miscellaneous Comments[b]	9
TOTAL NO. OF COMMENTS[c]	267

[a]Each questionnaire recipient was asked to give any additional comments which might help to evaluate sport fishing, particularly in the AOSERP study area.

[b]Includes comments which did not pertain to evaluation of sport fishing or could not be interpreted.

[c]Among the 361 respondents who fished in the AOSERP study area during the 1975-76 season, 184 gave no comment, 87 provided one comment, and 90 provided two comments.

Table 68. Significance between first and second mailings on selected variables for AOSERP study area fishing survey respondents, 1975-76 season.

Variable	No. of Respondents 1st Mailing	No. of Respondents 2nd Mailing	No. of Respondents Not Specified[a]	Chi Square	Degrees of Freedom	Percent Signif-icance[b]
Family Size	234	204	0	6.996	9	63.75
Family Income	227	181	30	1.522	7	98.15
Whether or Not Fished in the AOSERP Study Area Prior to the 1975-76 Season	233	201	4	1.261	1	26.15
Whether or Not Fished at Least Once in the AOSERP Study Area During the 1975-76 Season	234	204	0	1.362	1	24.33
Number of Fishing Trips Taken During the 1975-76 Season	197	159	5	48.019	42	24.20
Rating of Fishing Experience in the AOSERP Study Area, 1975-76 Season	198	162	1	6.051	4	19.54
Extramarket Benefits	134	111	116	24.797	25	47.38

[a] The first four variables are based on a total of 438 responses. The last three variables are based on a total of 361, since 77 of the 438 respondents did not fish during the 1975-76 season.

[b] Since the percentages of the variables are all greater than the 5.00 percent level of significance, there is no evidence of differences between first and second mailings.

9. AOSERP RESEARCH REPORTS

1.		AOSERP First Annual Report, 1975
2.	AF 4.1.1	Walleye and Goldeye Fisheries Investigations in the Peace-Athabasca Delta--1975
3.	HE 1.1.1	Structure of a Traditional Baseline Data System
4.	VE 2.2	A Preliminary Vegetation Survey of the Alberta Oil Sands Environmental Research Program Study Area
5.	HY 3.1	The Evaluation of Wastewaters from an Oil Sand Extraction Plant
6.		Housing for the North--The Stackwall System
7.	AF 3.1.1	A Synopsis of the Physical and Biological Limnology and Fisheries Programs within the Alberta Oil Sands Area
8.	AF 1.2.1	The Impact of Saline Waters upon Freshwater Biota (A Literature Review and Bibliography)
9.	ME 3.3	Preliminary Investigations into the Magnitude of Fog Occurrence and Associated Problems in the Oil Sands Area
10.	HE 2.1	Development of a Research Design Related to Archaeological Studies in the Athabasca Oil Sands Area
11.	AF 2.2.1	Life Cycles of Some Common Aquatic Insects of the Athabasca River, Alberta
12.	ME 1.7	Very High Resolution Meteorological Satellite Study of Oil Sands Weather: "a Feasibility Study"
13.	ME 2.3.1	Plume Dispersion Measurements from an Oil Sands Extraction Plant, March 1976
15.	ME 3.4	A Climatology of Low Level Air Trajectories in the Alberta Oil Sands Area
16.	ME 1.6	The Feasibility of a Weather Radar near Fort McMurray, Alberta
17.	AF 2.1.1	A Survey of Baseline Levels of Contaminants in Aquatic Biota of the AOSERP Study Area
18.	HY 1.1	Interim Compilation of Stream Gauging Data to December 1976 for the Alberta Oil Sands Environmental Research Program
19.	ME 4.1	Calculations of Annual Averaged Sulphur Dioxide Concentrations at Ground Level in the AOSERP Study Area
20.	HY 3.1.1	Characterization of Organic Constituents in Waters and Wastewaters of the Athabasca Oil Sands Mining Area

21.		AOSERP Second Annual Report, 1976-77
22.	HE 2.3	Maximization of Technical Training and Involvement of Area Manpower
23.	AF 1.1.2	Acute Lethality of Mine Depressurization Water on Trout Perch and Rainbow Trout
24.	ME 4.2.1	Air System Winter Field Study in the AOSERP Study Area, February 1977.
25.	ME 3.5.1	Review of Pollutant Transformation Processes Relevant to the Alberta Oil Sands Area
26.	AF 4.5.1	Interim Report on an Intensive Study of the Fish Fauna of the Muskeg River Watershed of Northeastern Alberta
27.	ME 1.5.1	Meteorology and Air Quality Winter Field Study in the AOSERP Study Area, March 1976
28.	VE 2.1	Interim Report on a Soils Inventory in the Athabasca Oil Sands Area
29.	ME 2.2	An Inventory System for Atmospheric Emissions in the AOSERP Study Area
30.	ME 2.1	Ambient Air Quality in the AOSERP Study Area, 1977
31.	VE 2.3	Ecological Habitat Mapping of the AOSERP Study Area: Phase I
32.		AOSERP Third Annual Report, 1977-78
33.	TF 1.2	Relationships Between Habitats, Forages, and Carrying Capacity of Moose Range in northern Alberta. Part I: Moose Preferences for Habitat Strata and Forages.
34.	HY 2.4	Heavy Metals in Bottom Sediments of the Mainstem Athabasca River System in the AOSERP Study Area
35.	AF 4.9.1	The Effects of Sedimentation on the Aquatic Biota
36.	AF 4.8.1	Fall Fisheries Investigations in the Athabasca and Clearwater Rivers Upstream of Fort McMurray: Volume I
37.	HE 2.2.2	Community Studies: Fort McMurray, Anzac, Fort MacKay
38.	VE 7.1.1	Techniques for the Control of Small Mammals: A Review
39.	ME 1.0	The Climatology of the Alberta Oil Sands Environmental Research Program Study Area
40.	WS 3.3	Mixing Characteristics of the Athabasca River below Fort McMurray - Winter Conditions
41.	AF 3.5.1	Acute and Chronic Toxicity of Vanadium to Fish
42.	TF 1.1.4	Analysis of Fish Production Records for Registered Traplines in the AOSERP Study Area, 1970-75
43.	TF 6.1	A Socioeconomic Evaluation of the Recreational Fish and Wildlife Resources in Alberta, with Particular Reference to the AOSERP Study Area. Volume I: Summary and Conclusions
44.	VE 3.1	Interim Report on Symptomology and Threshold Levels of Air Pollutant Injury to Vegetation, 1975 to 1978
45.	VE 3.3	Interim Report on Physiology and Mechanisms of Air-Borne Pollutant Injury to Vegetation, 1975 to 1978

46.	VE 3.4	Interim Report on Ecological Benchmarking and Biomonitoring for Detection of Air-Borne Pollutant
47.	TF 1.1.1	A Visibility Bias Model for Aerial Surveys of Moose on the AOSERP Study Area
48.	HG 1.1	Interim Report on a Hydrogeological Investigation of the Muskeg River Basin, Alberta
49.	WS 1.3.3	The Ecology of Macrobenthic Invertebrate Communities in Hartley Creek, Northeastern Alberta
50.	ME 3.6	Literature Review on Pollution Deposition Processes
51.	HY 1.3	Interim Compilation of 1976 Suspended Sediment Data in the AOSERP Study Area
52.	ME 2.3.2	Plume Dispersion Measurements from an Oil Sands Extraction Plant, June 1977
53.	HY 3.1.2	Baseline States of Organic Constituents in the Athabasca River System Upstream of Fort McMurray
54.	WS 2.3	A Preliminary Study of Chemical and Microbial Characteristics of the Athabasca River in the Athabasca Oil Sands Area of Northeastern Alberta.
55.	HY 2.6	Microbial Populations in the Athabasca River
56.	AF 3.2.1	The Acute Toxicity of Saline Groundwater and of Vanadium to Fish and Aquatic Invertebrates
57.	LS 2.3.1	Ecological Habitat Mapping of the AOSERP Study Area (Supplement): Phase I
58.	AF 2.0.2	Interim Report on Ecological Studies on the Lower Trophic Levels of Muskeg Rivers Within the Alberta Oil Sands Environmental Research Program Study Area
59.	TF 3.1	Self-Aquatic Mammals. Annotated Bibliography
60.	WS 1.1.1	Synthesis of Surface Water Hydrology
61.	AF 4.5.2	An Intensive Study of the Fish Fauna of the Steepbank River Watershed of Northeastern Alberta.

These reports are not available upon request. For further information about availability and location of depositories, please contact:

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